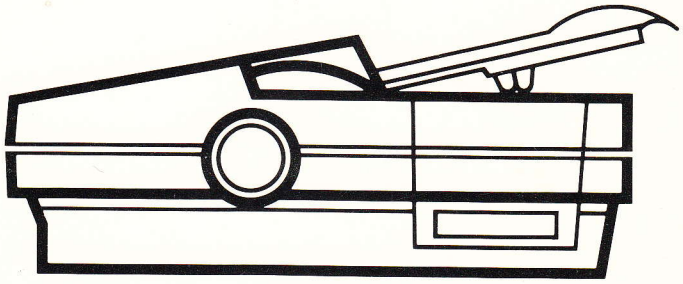
CITIZEN™

User's Manual



GSX-140

24 wire

DOT MATRIX PRINTER

CITIZEN™
GSX 140
User's Manual

Citizen America Corporation
2401 Colorado Avenue
Santa Monica, California 90404

FCC COMPLIANCE STATEMENT FOR AMERICAN USERS

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
- Move the computer into a different outlet so that the computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems."

This booklet is available from the U. S. Government Printing Office, Washington, DC 20402. Stock No. 004-000-00345-4.

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

Notice: You must use a shield cable when connecting this device.

Trademark Acknowledgement

Citizen, GSX 140, Command-Vue, Color On Command: Citizen America Corporation
Epson: Seiko Epson Corporation
IBM, Proprinter: International Business Machines Corporation
Lotus, 1-2-3: Lotus Development Corporation
Microsoft: Microsoft Corporation
PFS First Choice: Software Publishing Corporation
WordPerfect: WordPerfect Corporation
WordStar: MicroPro International Corporation

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FOR CANADI

This equipment generates and uses radio fre
used properly, that is, in strict accordance wi
cause interference to radio and television rec

This digital apparatus does not exceed the C
from digital apparatus set out in the Radio In
Department of Communications.

This equipment is designed to provide reason
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interference to radio or television reception,
equipment off and on, the user is encouraged
or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the r
- Move the computer into a different outlet s
  different branch circuits.

ETAT DE CONFORMIT
DES UTILISATEUR

Cet équipment produit et utilise l'énergie à r
utilisé correctment, c'est à dire en accord strict
risque de provoquer des intérferences avec la

Le présent appareil numérique n'émet pas de
limites applicables aux appareils numériques
Règlement sur le brouillage radioélectrique é
Communications du Canada.

Cet équipment est conçu pour fournir une pr
interférences dans une installation résidentiel
contre les interférences avec les réceptions ra
mise en et hors circuit de l'équipment, aussi,
de corriger l'interférence par l'une ou plus de

- Réorienter l'antenne de réception.
- Installer l'ordinateur autre part, par égard p
- Brancher l'ordinateur dans une prise de cou
  l'ordinateur et le récepteur soient branchés

EMI COMPLIANCE STATEMENT FOR CANADIAN USERS

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception.

This digital apparatus does not exceed the Class B limits for radio noise emmissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This equipment is designed to provide reasonable protection against such interference in a residential installation. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
- Move the computer into a different outlet so that computer and receiver are on different branch circuits.

ETAT DE CONFORMITE EMI A L'USAGE DES UTILISATEURS CANADIENS

Cet équipment produit et utilise l'énergie à radiofréquences et s'il n'est pas installé et utilisé correctment, c'est à dire en accord strict avec les instructions du fabricant, il risque de provoquer des intérferences avec la réception de la radio et de la télévision.

Le présent appareil numérique n'émet pas de bruite radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Cet équipment est conçu pour fournir une protection satisfaisante contre de telles interférences dans une installation résidentielle. Cependant, il n'y a pas de garantie contre les interférences avec les réceptions radio ou télévison, provoquées par la mise en et hors circuit de l'équipment; aussi, il est demandé a l'utilisateur d'essayer de corriger l'interférence par l'une ou plus des mesures suivantes:

- Réorienter l'antenne de réception.
- Installer l'ordinateur autre part, par égard pour le récepteur.
- Brancher l'ordinateur dans une prise de courant différente de façon à ce que l'ordinateur et le récepteur soient branchés sur des circuits différents.

Important Safety Instructions

Provided by Underwriters Laboratories, Inc.

1. Read all of these instructions and save them for later reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to the product.
6. Slots and openings on the cabinet and the back or bottom are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, do not block or cover these openings. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
9. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be walked on.
10. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
12. Except as explained elsewhere in this manual, don't attempt to service this product yourself. Opening and removing those covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks. Refer all servicing on those compartments to service personnel.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    A. When the power cord or plug is damaged or frayed.
    B. If liquid has been spilled into the product.
    C. If the product has been exposed to rain or water.
    D. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
    E. If the product has been dropped or the cabinet has been damaged.
    F. If the product exhibits a distinct change in performance, indicating a need for service.

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Quick Reference

Introduction

Your new Citizen GSX 140 printer is a versatile 24-wire printer known for high-quality and operating convenience. The GSX 140 printer continues the "new generation" of the Citizen family of printers. The GSX 140 provides all of the features of other Citizen printers with the refinements and additional features of a next-generation printer.

The GSX 140 is designed to work with all of today's personal computers in a wide variety of applications, using either commercial software or your own programs.

GSX 140 Features

The GSX 140 has all the features you might expect in a top-quality dot matrix printer as well as a vast array of other features you may not expect.

Compatibility

- ❑ Built-in emulations for both Epson LQ-series printers and the IBM Proprinter X24; these emulations are "value-added" with a wide variety of GSX-unique print features you won't find in an Epson or IBM printer.
- ❑ The ability to define printer settings in macros makes your printer compatible with up to four printing situations by simply loading the appropriate macro into the printer's memory. Let the macros do the work for you!
- ❑ The free utility program (for computers using MS- or PC-DOS) furnished with the printer makes it easy to set printer options from your computer. And you save an unlimited number of option settings for use with different programs or different paper—all available from your computer.

Printing Features

- ❑ Maximum print spe
spreadsheets, long
graphics; the GSX 1
per second in high-s
mode—160 characte
per inch mode.
- ❑ Letter quality fonts
and Prestige which
the GSX 140's print
finished documents
- ❑ All the standard pri
expect such as expa
doublestrike, shado
and subscripts, doub
white-on-black print
- ❑ High-resolution gra
much creativity as y

Command-Vue™ Control

- ❑ The Command-Vue
display (LCD) consis
characters. Over 75
shown on the displa
the printer, error co
You'll refer to it ofte
setup menus.
- ❑ Control the GSX 140
functions and feature
Command-Vue™ set
- ❑ Change print color, p
with an easy-access s
available at the press

Printing Features

- ❑ Maximum print speed for making short work of spreadsheets, long word processing files and graphics; the GSX 140 prints up to 192 characters per second in high-speed 12 characters per inch mode—160 characters per second in 10 characters per inch mode.
- ❑ Letter quality fonts in Roman, Sans Serif, Courier and Prestige which are compatible with most of the GSX 140's print features will make your finished documents look great!
- ❑ All the standard print features you've come to expect such as expanded, condensed, emphasized, doublestrike, shadow, outline, italics, superscripts and subscripts, double-high characters and reverse white-on-black print.
- ❑ High-resolution graphics (360 dpi x 360 dpi) for as much creativity as your software will allow.

Command-Vue™ Control Panel

- ❑ The Command-Vue control panel is a liquid crystal display (LCD) consisting of two rows of eight characters. Over 75 *"Plain English"* messages shown on the display indicate the current state of the printer, error conditions, and menu settings. You'll refer to it often, especially when using the setup menus.
- ❑ Control the GSX 140's entire array of printer functions and features with the control panel's Command-Vue™ setup menu.
- ❑ Change print color, pitch, font and load a macro with an easy-access self-prompting "quick menu" available at the press of a key!

Paper-handling Flexibility

- ❑ The GSX 140's paper parking feature allows you to switch between continuous paper and single sheets by just a "flip of the lever," even if you have an optional sheet feeder installed.
- ❑ A top-of-form fine adjustment lets you change the first printing position, making your GSX 140 immediately suitable to your application form!
- ❑ The unique continuous paper tear-off feature automatically advances the forms to the tear bar, so you can remove the printed document, and then automatically returns the form to the top of the new page; you won't waste blank sheets as is common with less-sophisticated printers.
- ❑ The GSX 140's bottom-feed capability allows you to print multi-copy forms, continuous labels and thick paper. The multi-copy capability is further enhanced with a copy mode feature that accommodates 1 original plus 3 copies.

Options, Options, Options!

- ❑ Optional equipment is readily available. Expand your GSX 140's already formidable capabilities with options such as a Color On Command™ using the color printing kit, a serial interface, an automatic sheet feeder, a manual sheet feeder, a printer stand and a memory expansion (RAM) chip. See Appendix C for these options.

Useful Printouts

- ❑ Three types of helpf
  imaginative sample
  a help printout show
  functions; and a con
  all printer settings.
- ❑ Three types of print
  test pattern, a printh
  dump feature—for p

About This Manual

This User's Manual has
types of users—you ca
you want. The manual

- ❑ Introduction
- ❑ Section I: Basic Ope
- ❑ Section II: Using Co
- ❑ Appendix
- ❑ Index

These sections provide
information you'll need
GSX 140.

Section I provides info
of the GSX 140. Here's w

If you want to get print
Chapter 1. It has all the
assemble the GSX 140, l
And a quick review of C
control panel functions.

Useful Printouts

- Three types of helpful reference printouts: an imaginative sample page of GSX 140 print features; a help printout showing control panel setup menu functions; and a configuration printout showing all printer settings.
- Three types of printer self-tests: a sliding character test pattern, a printhead alignment test and a hex dump feature—for program debugging.

About This Manual

This User's Manual has been expertly designed for all types of users—you can read as much or as little as you want. The manual contains five sections:

- Introduction
- Section I: Basic Operation
- Section II: Using Command-Vue™
- Appendix
- Index

These sections provide logical separations of the information you'll need to get the most from your GSX 140.

Section I provides information for basic operation of the GSX 140. Here's what you'll find:

If you want to get printing quickly, just read Chapter 1. It has all the information you need to assemble the GSX 140, load paper and start printing. And a quick review of Chapter 2 will show you basic control panel functions.

If you want more paper-feeding information, such as types of paper and paper feeding methods, Chapter 3 has all the details you'll need.

Section II explores the use of Command-Vue™—the heart of the GSX 140's unique design. Command-Vue™ allows you to control all of the GSX 140's extensive printing features through the use of the a quick menu, a setup menu and macros. The beginning of Section II explains the Command-Vue™ philosophy and its benefits. Here's what else you'll find:

If you'll be using commercial software, Chapter 4 is for you. It has software installation information and tips for tapping the GSX 140's printing features.

As you gain experience, you'll want to read Chapters 5, 6 and 7. They provide details of the GSX 140's quick menu, setup menu and macro feature.

Want more? The appendixes contain technical information about the GSX 140, user maintenance and troubleshooting, as well as all the options available for your printer to further enhance its capabilities! A detailed index lets you quickly locate needed information.

Conventions

Notes, cautions and warnings are used like this:

Notes contain helpful hints and other important information that will help you get better use from your GSX 140 printer.

Cautions provide information about procedures which, if not observed, could result in damage to the GSX 140 or other equipment.

Warnings mean failu
and practices may re

The Bonus Utility a

Your GSX 140 comes
disk. This bonus disk
Utility program, the
These programs are
PC-DOS and MS-DO

The Utility program a
for a particular type o
save your settings an
GSX 140 compatible

The Utility program i
help and instructions

The Reference progra
in both the Epson LQ-
command sets as well
commands. Informati
you can quickly move
either display the info
screen or print it on th
entire reference mater

Warnings mean failure to follow specific procedures and practices may result in personal injury.

The Bonus Utility and Reference Disk

Your GSX 140 comes with a free Utility and Reference disk. This bonus disk has two programs: one is a Utility program, the other a Reference program. These programs are compatible with computers using PC-DOS and MS-DOS operating systems.

The Utility program allows you to set up your printer for a particular type of printing situation. You can save your settings and recall them later, making your GSX 140 compatible with many printing situations.

The Utility program is easy to use. You'll find on-line help and instructions in Chapter 8 of this manual.

The Reference program contains all of the commands in both the Epson LQ-series and IBM Proprinter X24 command sets as well as a set of GSX-unique commands. Information is logically indexed so that you can quickly move to the portions you need and either display the information on your computer screen or print it on the printer. You can also print the entire reference material on the printer.

Section I
Basic Oper

Chapter 1. Setup . . . . .

Chapter 2. Command-Vue Panel . . . . . .

Chapter 3. Paper Handlin

Section I
Basic Operation

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Chapter 3. Paper Handling 25

Section I of this manual describes the essentials of printer operation. You'll learn how to set it up, turn it on, and begin printing in Chapter 1. Chapter 2 explains the basic functions of the Command-Vue control panel. In Chapter 3, the different types of paper you can use with the GSX 140 are described, along with procedures for loading each type. You'll also learn about some of the printer's advanced features, such as paper parking and automatic paper advancement to the tear bar.

This section contains everything you need to know to begin printing. We hope you'll continue with Section II, however, as it describes the advanced features that make the GSX 140 unique. We want to be sure that you realize the greatest return on your investment in a state-of-the-art printer.

Chapter 1
Setup

This chapter explains h
GSX 140 printer for opt
here are tips on:

- ❑ Selecting the best loc
- ❑ Unpacking and setti
- ❑ Using the paper guid
- ❑ Loading paper
- ❑ Printing a test patter
- ❑ Connecting your co

And more. Read this se
your printer for the firs
insure a long and troub

Selecting the Best Lo

Before unpacking your
moments to consider w
Printers operate best in
enjoy, so in most cases,
work. But here are a fe

- ❑ Choose a flat, stable
  also accommodates
  there is enough roo
  the paper to flow ea

Chapter 1
Setup

This chapter explains how to setup your new GSX 140 printer for optimum performance. Included here are tips on:

- ❑ Selecting the best location
- ❑ Unpacking and setting up the printer
- ❑ Using the paper guide
- ❑ Loading paper
- ❑ Printing a test pattern
- ❑ Connecting your computer

And more. Read this section carefully before using your printer for the first time. It is the best way to insure a long and trouble-free life for your printer.

Selecting the Best Location

Before unpacking your printer any further, take a few moments to consider where you plan to put it. Printers operate best in the same environment people enjoy, so in most cases, where you work is where they work. But here are a few other guidelines:

- ❑ Choose a flat, stable desk or printer stand which also accommodates your paper supply. Be sure there is enough room around the printer to allow the paper to flow easily in and out.

- ❑ If you are using a wooden table, protect the surface from possible damage by placing a mat under the printer.
- ❑ Position the printer so that the power cord and computer cable do not interfere with the paper flow.
- ❑ Avoid sudden, severe changes in temperature and humidity, as well as direct sunlight, dust and grease. Pick a clean area for daily operations.
- ❑ Select a steady source of 120-volt electricity and check for other appliances which may be using the same circuit. Copiers, heaters, air conditioners and other motorized equipment can cause power fluctuations which may interfere with your printing projects.

Unpacking and Setting up the Printer

Having found a good spot for your printer, proceed to unpack the printer. Save all the original packing materials. They are specially designed to protect the printer and will make repacking easy if you ever need to ship the printer.

Carton Contents

In your printer carton you should have received the five items shown in Figure 1-1. Confirm that you received them all. If anything is missing, contact your dealer.

Before continuing, remove the cardboard protector in the printer, just behind the top cover.

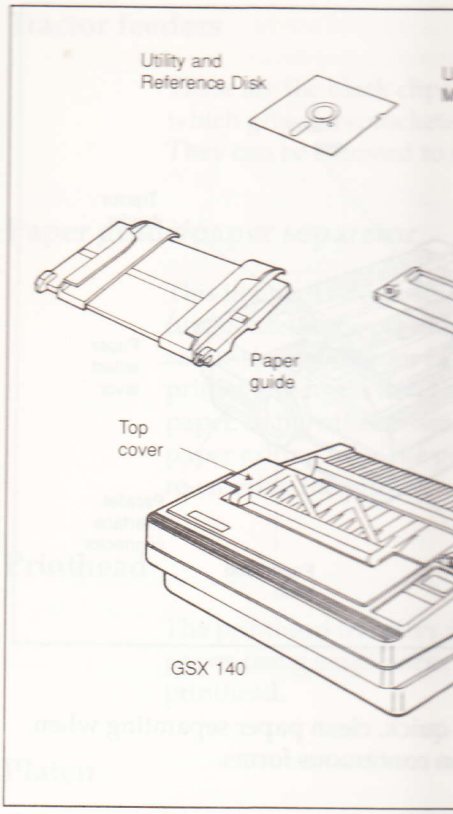

Figure 1-1. With the GSX 140 printer come these ad book); b) a Utility and Reference disk; c)

Identifying Printer Compo

Figure 1-2 highlights the GSX 140 printer.

Top cover

The top cover protects th objects as well as reducin printing. It also holds the crisp, clear printing resul which touches the paper

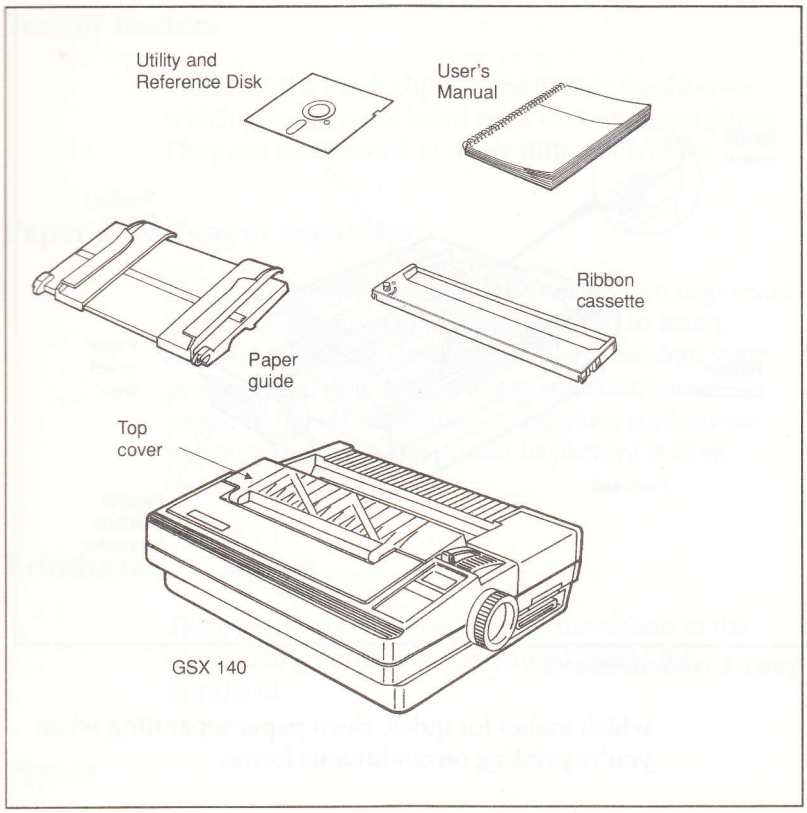

Figure 1-1. With the GSX 140 printer come these additional items: a) User's Manual (this book); b) a Utility and Reference disk; c) ribbon cassette and d) paper guide.

Identifying Printer Components

Figure 1-2 highlights the main components of the GSX 140 printer.

Top cover

The top cover protects the printer from dust and stray objects as well as reducing the noise level while printing. It also holds the paper firmly in place for crisp, clear printing results. The part of the top cover which touches the paper has a special tear-bar edge

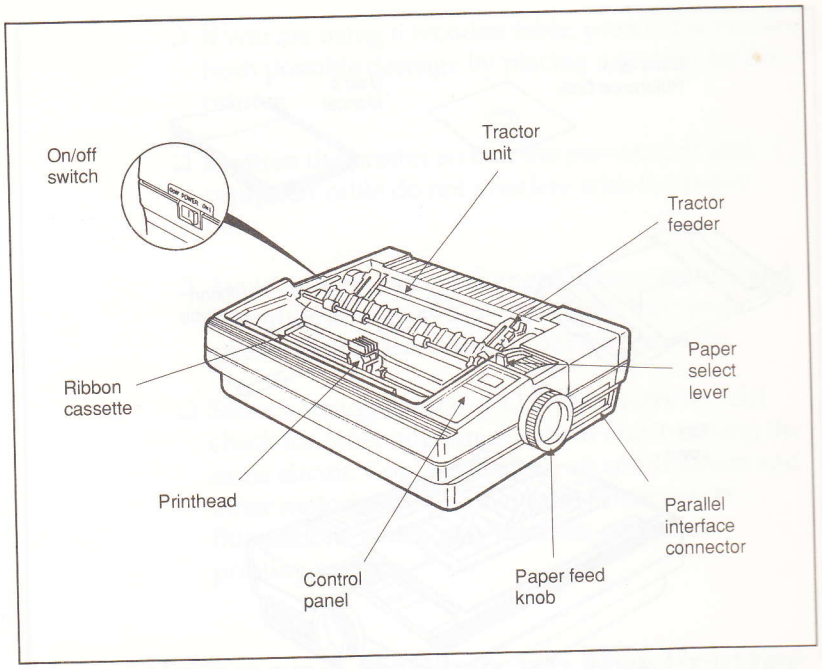

Figure 1-2. Printer components.

which makes for quick, clean paper separating when you're printing on continuous forms.

Tear-bar

The part of the top cover which touches the paper has a special tear-bar edge which makes for quick, clean paper separating when you're printing on continuous forms.

Tractor unit

The tractor feed unit holds continuous paper (also labels and multi-part forms) and feeds it automatically into the printer. It offers both "push" and "pull" positions, giving you excellent control of your printed output on various types of paper stock. More details on this feature are in the section on loading paper.

Tractor feeders

These are the black clips which grip the sprockete They can be adjusted to

Paper guide/paper separator

This item has two positi functions. In one positio single sheets of paper (s printer when you don't paper. In the other posi paper exiting from the re-entering the printer.

Printhead

The printhead transfers paper, using small wire printhead.

Platen

The platen is the hard paper to the printhead

Paper select lever

You can easily switch continuous paper wit to the lever illustrate, continuous paper and sheets.

Paper feed knob

Turn the platen with automatically loaded

Tractor feeders

These are the black clips on the tractor mechanism which grip the sprocketed edge of continuous paper. They can be adjusted to many different widths.

Paper guide/paper separator

This item has two positions and serves two important functions. In one position it allows you to insert single sheets of paper (such as letterhead) into your printer when you don't want to use continuous paper. In the other position it separates continuous paper exiting from the printer to prevent it from re-entering the printer.

Printhead

The printhead transfers ink from the ribbon to the paper, using small wires contained inside the printhead.

Platen

The platen is the hard rubber cylinder that carries the paper to the printhead.

Paper select lever

You can easily switch between single sheets and continuous paper with this lever. As the images next to the lever illustrate, the forward position feeds continuous paper and the rear position feeds single sheets.

Paper feed knob

Turn the platen with this knob. Because paper is automatically loaded and fed through the printer

during printing, you should not turn the knob except to clear the occassional paper jam.

Control panel

The control panel allows you select the many variable features of your GSX 140 printer. See Chapter 2, "Command-Vue Control Panel," for details.

On/off switch

The power switch on your printer is located on the left side near the back.

Parallel interface

This is the computer interface which is installed in your printer at the factory. If you choose to install the optional serial interface connector, follow the instructions provided in Appendix C, "Options."

Opening the Top Cover

The top cover is a two-part hinged cover with a handy tear-bar at one edge. You will need to open it to install and change ribbons and to make other adjustments to the printer. When you open the cover, you should open it in two stages—first, fold it open at the hinge, and then lift it out. (See Figure 1-3.)

Replacing the Top Cover

Installing the top cover is also a two-stage process. Each half of the cover should click into place separately to ensure complete closure.

Begin by holding the cover folded open at the hinge. Grasp it with a hand at each end or with one hand in the middle. Insert the tabs at the front edge of the

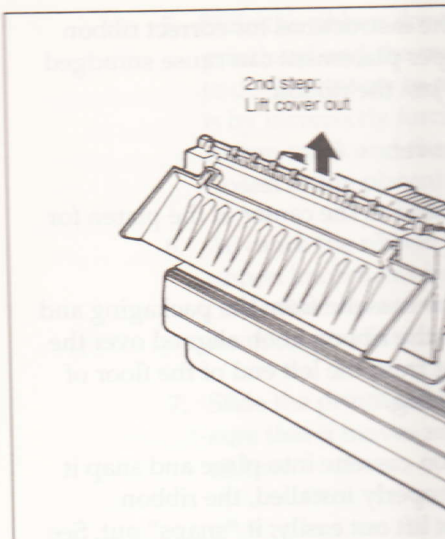

Figure 1-3. Open the top cover in two steps: 1) fold the cover out.

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Then unfold the transp
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Installing the Ribbo

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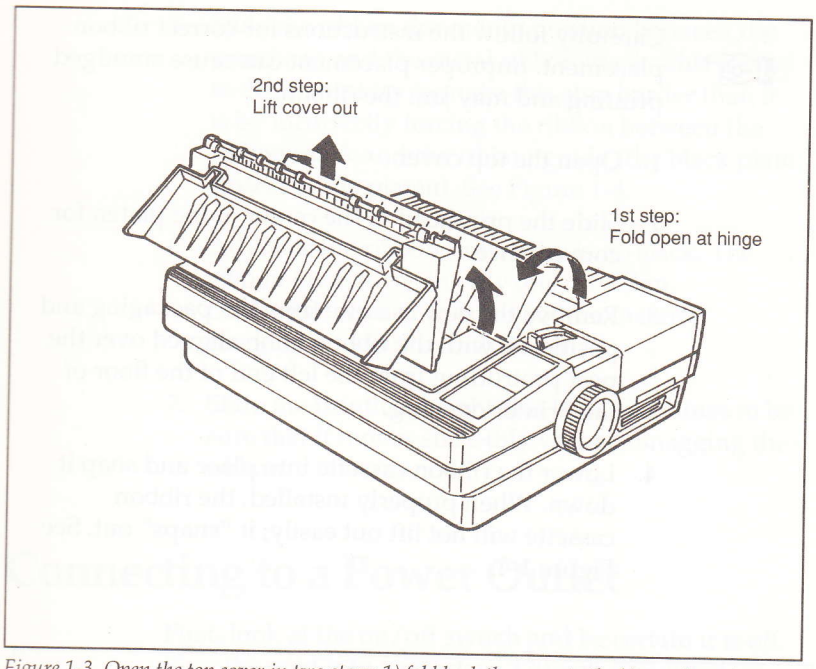

Figure 1-3. Open the top cover in two steps: 1) fold back the cover to the hinge, then 2) lift the cover out.

cover into the two small slots located on the inside lip of the printer opening. Recline the cover into position and press each corner where it says "Push." You can hear the corners click into place.

Then unfold the transparent part of the cover and press it into place.

Installing the Ribbon

Ribbon installation is a quick procedure but please heed these two precautions:

If you are replacing a ribbon, be sure the printer is off and the printhead has had time to cool.

Carefully follow the instructions for correct ribbon placement. Improper placement can cause smudged printing and may jam the ribbon.

1. Open the top cover.
2. Slide the printhead to the center of the platen for convenience.
3. Remove the new cassette from the packaging and position it with the ribbon knob aligned over the post protruding from the left end of the floor of the printer opening.
4. Lower the ribbon cassette into place and snap it down. When properly installed, the ribbon cassette will not lift out easily; it "snaps" out. See Figure 1-4.

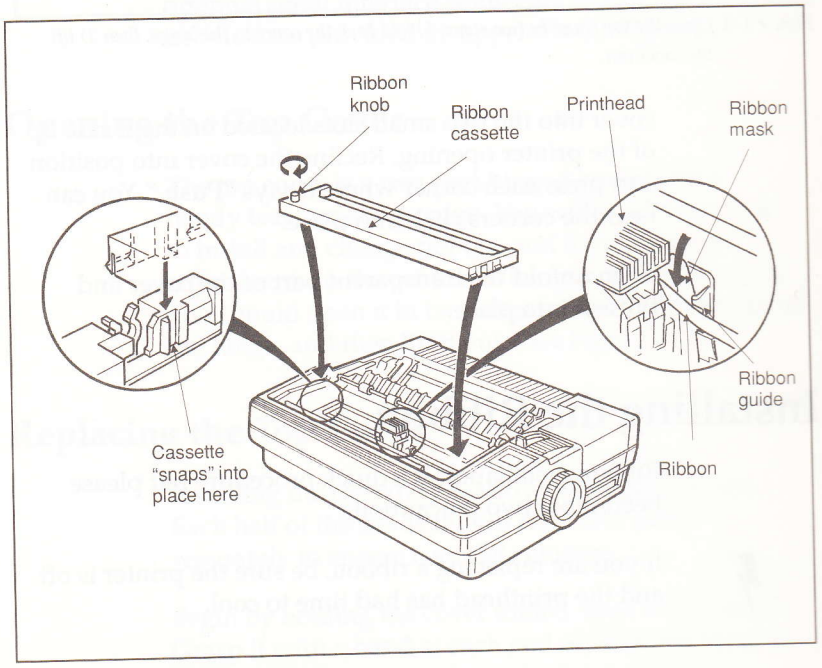

Figure 1-4. Install the ribbon cassette.

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6. Advance the rib
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7. Slide the printhe
sure that it move
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Connecting to a Po

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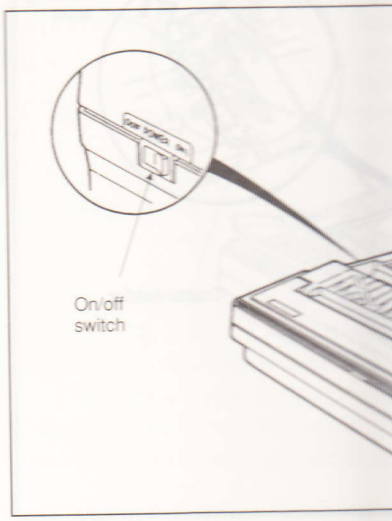

Figure 1-5. Connect the printer to a power

5. Slide the ribbon down into position between the printhead and the metal ribbon mask. This is easy to do! Do not try to make this step harder than it is by incorrectly forcing the ribbon between the ribbon mask and the ribbon guide (the black plate closest to the platen). See Figure 1-4.

6. Advance the ribbon until there is no slack. The ribbon knob turns in only one direction, clockwise. An arrow on top of the cassette reminds you to turn it this way.

7. Slide the printhead right and left a few times to be sure that it moves smoothly without snagging the ribbon.

Connecting to a Power Outlet

First, look at the on/off switch and be certain it is off. Plug the cord into a standard 120-volt grounded outlet (see Figure 1-5).

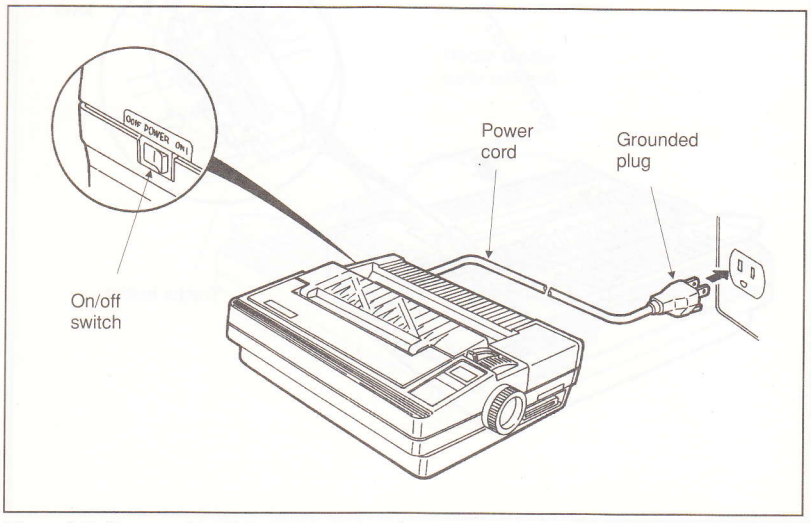

Figure 1-5. Connect the printer to a power outlet.

Loading Paper

Your GSX 140 printer adapts to many different paper types and each may be loaded into the printer in several ways. This chapter covers only one paper type, loaded one way, so that you can test your printer and get started printing your own documents quickly. Details on paper and loading variations are in Chapter 3, "Paper Handling."

For now, follow these steps to load continuous paper into your new printer:

Although the top cover is open in the following illustrations, it is not necessary to open this cover to load paper. The illustrations are drawn this way in order to show details of the inside of the printer.

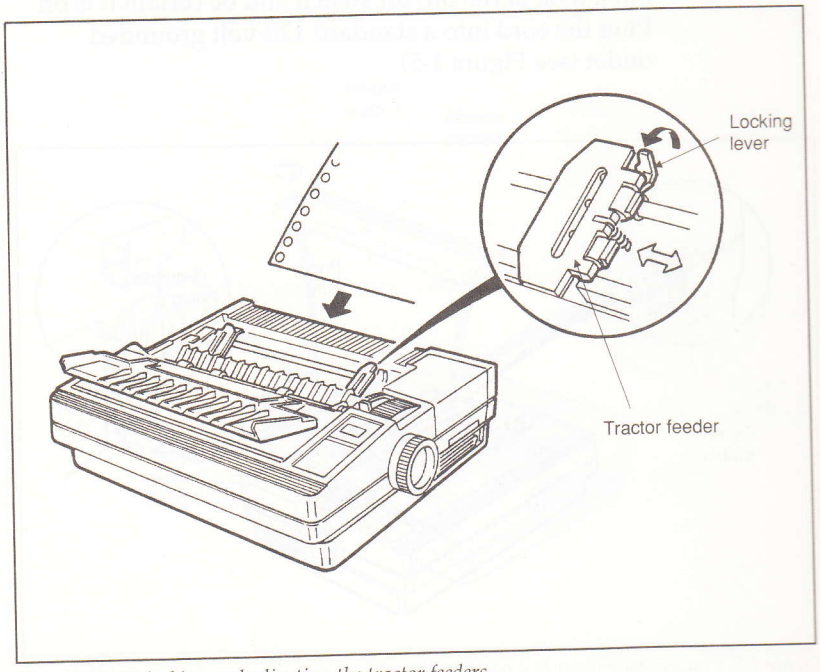

Figure 1-6. Unlocking and adjusting the tractor feeders.

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All new printers ar
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3. Flip open both t
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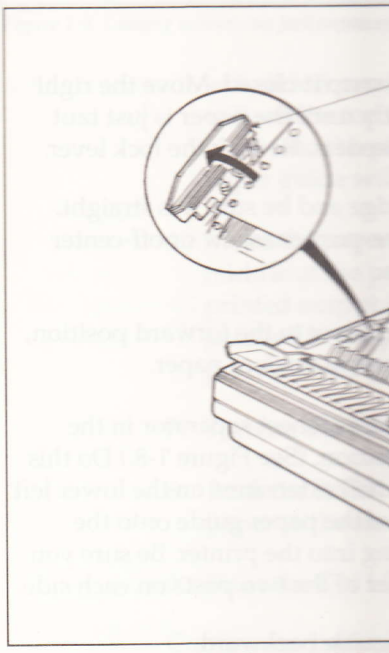

Figure 1-7. Place paper on the tractor feeders.

1. Place your continuous-feed paper stack below or behind your printer so that the paper may feed in from the rear of the printer.

2. Unlock the tractor feeders by pulling the lock levers forward, as shown in Figure 1-6. Slide them left and right to the approximate paper width. Lock the left one in place.

All new printers arrive from the factory with the tractor unit installed in the "push" position. If, for some reason, the tractor unit is not installed in your printer (or it is in the "pull" position), see Chapter 3, "Paper Handling."

3. Flip open both tractor feeder covers (as shown in Figure 1-7) and position the paper's left sprocket holes over the tractor pins on the left tractor feeder. Snap it closed. Position the paper's right sprocket holes over the tractor pins on the right

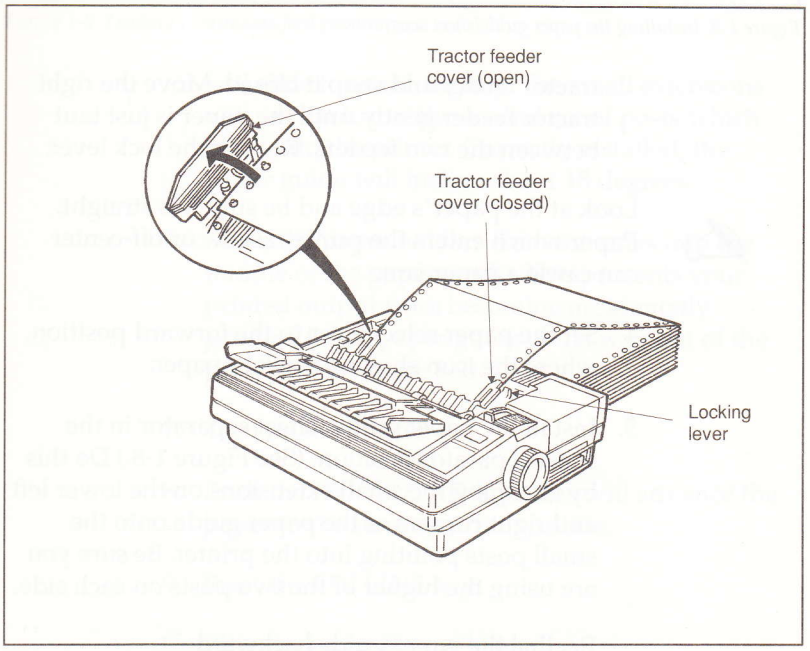

Figure 1-7. Place paper on the tracter feeders.

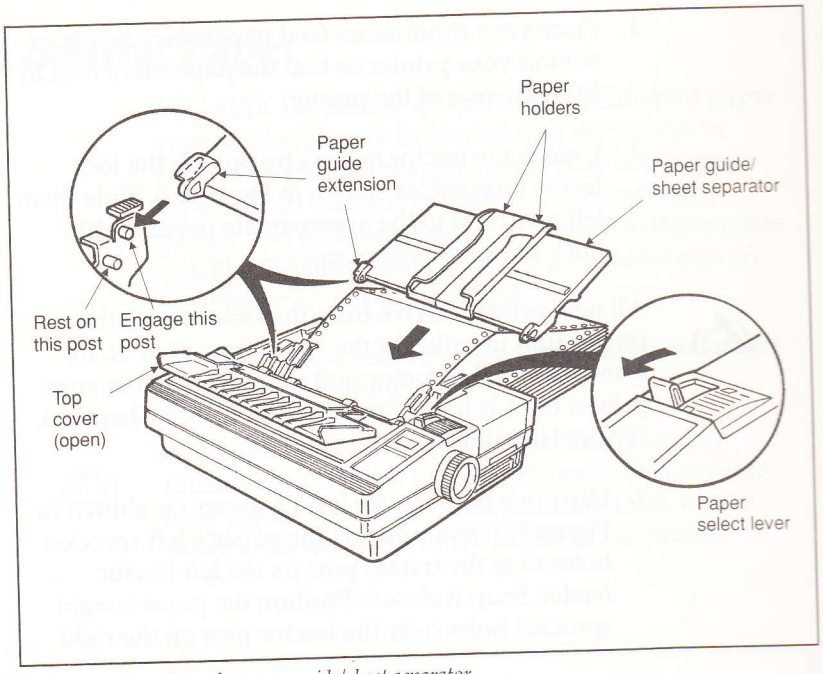

Figure 1-8. Installing the paper guide/sheet separator.

tractor feeder and snap it closed. Move the right tractor feeder gently until the paper is just taut between the two feeders. Re-lock the lock lever.

Look at the paper's edge and be sure it is straight. Paper which enters the printer askew or off-center can cause a paper jam.

4. Set the paper select lever to the forward position, where the icon shows a stack of paper.

5. Install the paper guide/sheet separator in the sheet separator position. (See Figure 1-8.) Do this by engaging the small extensions on the lower left and right corners of the paper guide onto the small posts pointing into the printer. Be sure you are using the higher of the two posts on each side.

   Recline the paper guide backward. Simultaneously the front end of the paper guide

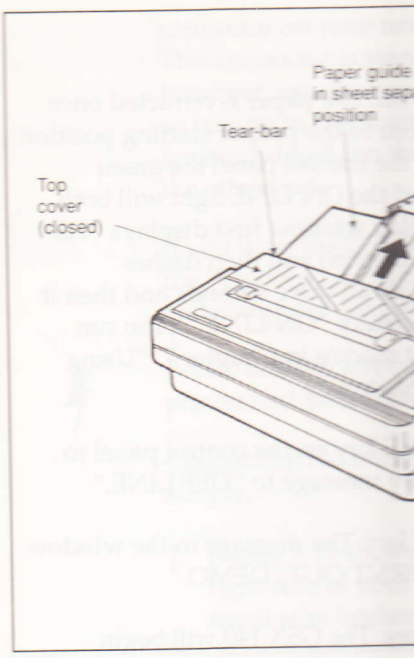

Figure 1-9. Loading continuous feed paper.

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Continuous paper i

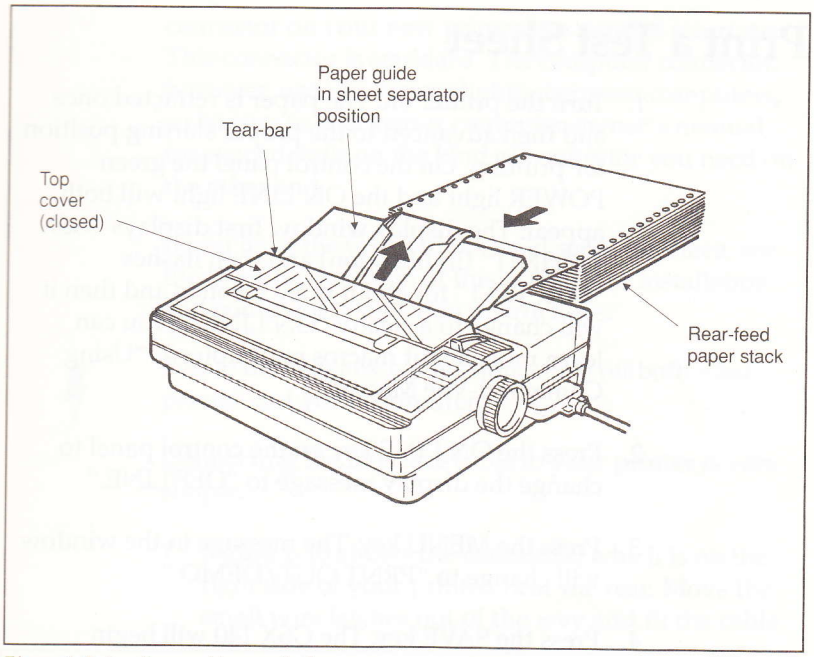

Figure 1-9. Loading continuous feed paper.

will slide forward slightly. The small extensions will rest on top of the second set of posts which point into the printer. Correctly installed, the paper guide will incline about 15 degrees.

6. Move the paper holders from the sides into the middle of the paper guide. This prevents your printed output from becoming accidentally jammed in the paper guide on its way out of the printer. (See Figure 1-9).

7. Turn on the printer.

8. Push the PARK LOAD key. This will advance the paper to the starting print position.

9. Press the ON LINE key.

Continuous paper is now loaded.

Print a Test Sheet

1. Turn the printer on. The paper is retracted once and then advanced to the proper starting position for printing. On the control panel the green POWER light and the ON LINE light will both appear. The display window first displays "GSX 140/INIT" (initilization) and then flashes "MACRO 1" for about three seconds and then it will change to a steady "ON LINE." (You can learn more about macros in Chapter 7, "Using Command-Vue Macros.")

2. Press the ON LINE key on the control panel to change the display message to "OFF LINE."

3. Press the MENU key. The message in the window will change to "PRNT OUT/DEMO."

4. Press the SAVE key. The GSX 140 will begin printing a full-page test sheet.

5. After the page is printed, the printer automatically returns to off-line.

6. Rip off the printed sheet.

7. Press ON LINE once again to put your printer back on-line. It is now ready to receive data. As soon as your printer receives data, the paper will automatically be retracted to the proper starting position before printing.

Connecting Your Computer

Your GSX 140 printer and your computer communicate through a cable which is readily available at local computer dealers. You will need a Centronics parallel printer cable (also called the parallel printer interface cable) because the interface

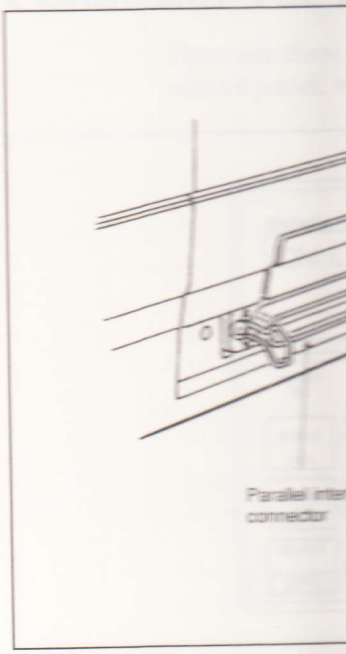

Figure 1-10. Connecting the parallel in

connector on your new printer is a parallel interface. This connector is standard. The computer connector, however, usually varies slightly between computers, so be sure to check your computer owner's manual for exact details on the kind of connector you need on the other end.

If you have the GSX 140 optional serial interface, see the "Options" section of this manual for installation and computer connection instructions.

Before making any connections, turn off both your printer and your computer.

Connecting the interface cable to your printer is very simple.

1. Figure 1-10 shows the connector, which is on the right side of your printer, near the rear. Move the small wire latches out of the way and fit the cable

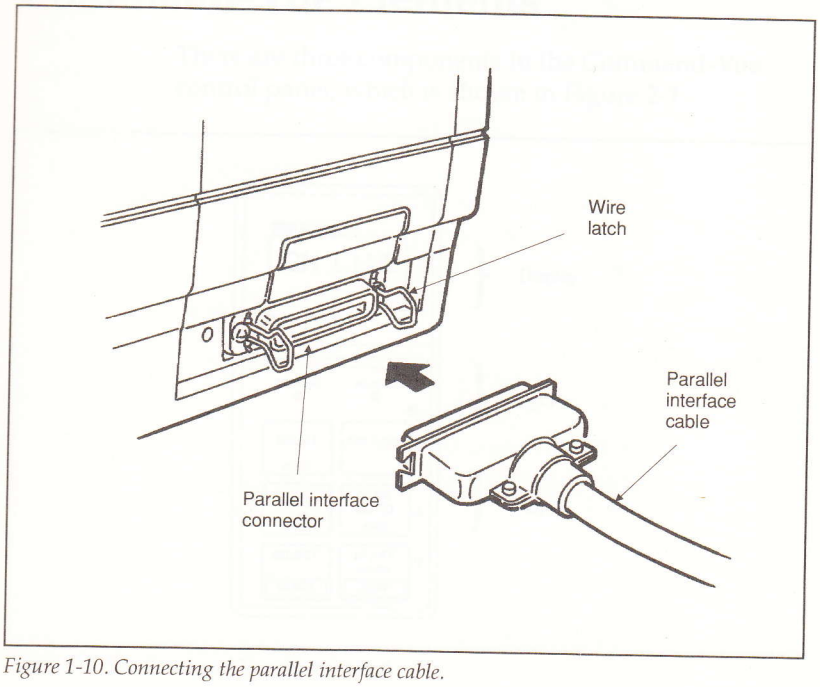

Figure 1-10. Connecting the parallel interface cable.

connector onto the printer connector. They are designed to fit only one way, so this is a fool-proof connection. Be sure the connectors are firmly attached but do not use a lot of force; it is possible to bend or break the connector pins.

2. Press the wire latches into place to hold the connectors together.

The parallel and serial interface can each be connected to a computer if you have more than one you want to use with the GSX 140. The interfaces work on a "first come, first served" basis; the interface that receives data first becomes the active interface and remains active until you turn the printer off and on again. When an interface is active, the other one is not used, even if data is sent while the active interface is not receiving data.

Chapter 2
Command-V Control Pan

The Command-Vue co
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Command-Vue Elem

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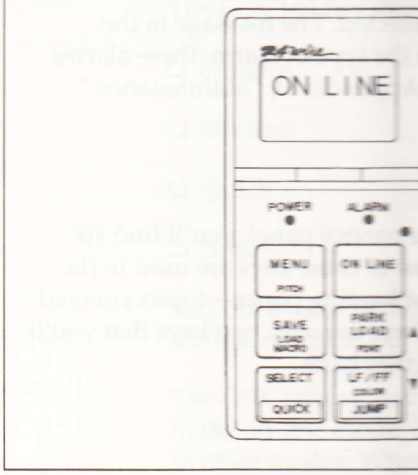

Figure 2-1. The Command-Vue control panel.

Chapter 2
Command-Vue™ Control Panel

The Command-Vue control panel is comprised of the display, indicator lights, and keys on the right side of the top of the printer. This chapter explains basic usage of the control panel; setup menus and other advanced uses of the control panel are explained in Chapters 5, 6, and 7 of this manual.

Command-Vue Elements

There are three components in the Command-Vue control panel, which is shown in Figure 2-1.

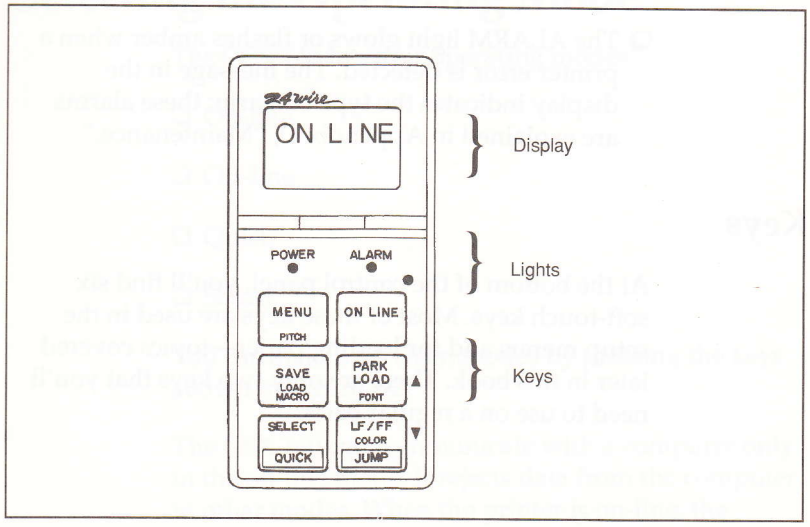

Figure 2-1. The Command-Vue control panel.

Command-Vue Display

At the top is the Command-Vue liquid crystal display (LCD); in this manual we refer to it simply as the display. The display can show two rows of eight characters. Command-Vue messages indicate the current state of the printer, error conditions, and menu settings. You'll refer to it often, especially when using the setup menus.

Lights

Below the Command-Vue display are three indicator lights.

- ❑ The POWER light glows green when the printer power is switched on.
- ❑ The ON LINE light (the unlabeled light located at the upper right corner of the ON LINE key) glows green when the printer is on-line. The light goes off when the printer is off-line or when a printer error is detected.
- ❑ The ALARM light glows or flashes amber when a printer error is detected. The message in the display indicates the type of alarm; these alarms are explained in Appendix D, "Maintenance."

Keys

At the bottom of the control panel, you'll find six soft-touch keys. Most of these keys are used in the setup menus and for loading paper—topics covered later in this book. There are only two keys that you'll need to use on a regular basis.

- ❑ The ON LINE key s
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- ❑ The LF/FF key can
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Selecting the Operat

The GSX 140 has four

- ❑ On-line
- ❑ Off-line
- ❑ Quick
- ❑ Setup

You can switch betwe
shown in Figure 2-2.

The GSX 140 can comm
in the on-line mode. It
in other modes. When
QUICK key can be use

- The ON LINE key switches between on-line and off-line states. When the printer is on-line, you can press the ON LINE key to switch the printer off-line to stop printing, allowing you to adjust the paper or other settings. If you press the ON LINE key when the printer is off-line, the on-line light will glow and the printer will be on-line again.
- The LF/FF key can be used to advance the paper when the printer is off-line (it is used to adjust the top-of-form position when the printer is on-line). Pressing the LF/FF key advances the paper one line (LF stands for line feed). If you press the key for more than two seconds, the paper will be advanced so the next perforation is under the paper tear edge. This function is the same as the FF (form feed) code usually sent by an application program at the end of printing on a page. When the printer is subsequently placed on-line and the next print data is received, the paper will automatically retract to the correct print position.

Selecting the Operating Mode

The GSX 140 has four operating modes:

- On-line
- Off-line
- Quick
- Setup

You can switch between modes by pressing the keys shown in Figure 2-2.

The GSX 140 can communicate with a computer only in the on-line mode. It rejects data from the computer in other modes. When the printer is on-line, the QUICK key can be used for choosing "quick" print

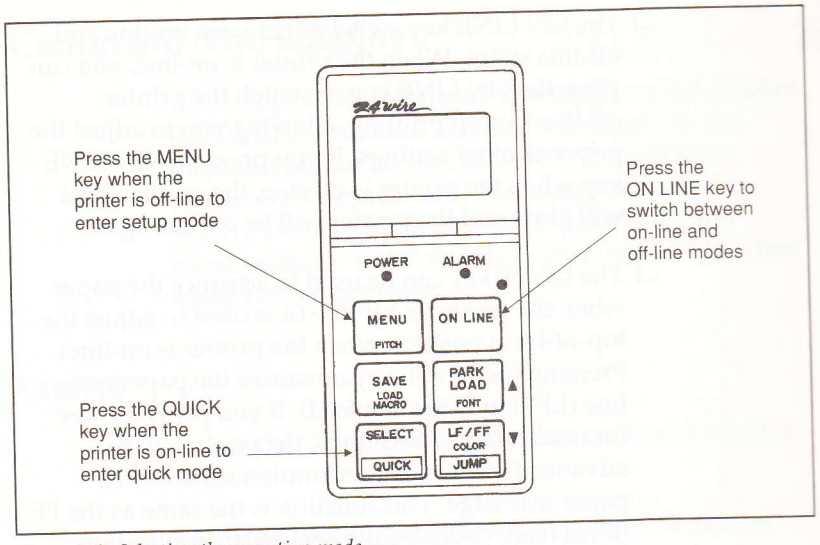

Figure 2-2. Selecting the operating mode.

settings. The PARK LOAD and LF/FF keys—when pressed for more than one second—are used to adjust the current top-of-form setting when the printer is on-line.

The off-line mode permits the use of the LF/FF key for advancing the paper, as described in the previous section. In addition, the PARK LOAD key can be used in off-line mode for loading or parking paper; refer to Chapter 3, "Paper Handling."

The Command-Vue Quick Mode allows you to quickly change frequently-used settings: pitch, font, and color. You can also load a macro in Quick Mode, which is explained in Chapter 5, "Command-Vue Quick Menu."

Command-Vue Setup Mode is used to change a variety of printer settings. You'll find a detailed description of Setup Mode in Chapter 6, "Command-Vue Setup Menu."

Printing Help Infor

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Chapter 1, "Setup,"
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MENU	PRINT HE
SAVE	PRINT HE

Command-Vue D

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ON LINE
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optional RAM ch

Printing Help Information

You can print a summary of setup menu operation on the GSX 140. To do so, load paper as described in Chapter 1, "Setup," and make sure that the power is on and the printer is on-line (the POWER and ON LINE lights will be glowing and the display will read "ON LINE"). Then follow these steps:

Pressing:	Displays:	And the results:
ON LINE	OFF LINE	Sets the printer off-line.
MENU	PRNT OUT DEMO	Displays the ***demo*** menu.
MENU	PRNT OUT HELP	Displays the ***help*** menu, which prints a page of help information.
SAVE	PRNT OUT HELP	Selects the ***help*** menu and begins printing.

Command-Vue Data Meter

When the GSX 140 is printing, the Command-Vue display shows how much data is in the input buffer. This data meter displays the amount of data as a percentage in 10% increments. For example, an input buffer with 90% data would display as:

```
ON LINE
DATA  90%
```

The percentage is rounded off to the nearest 10%. With the standard input buffer (that is, without the optional RAM chip), "DATA 100%" is 8K; with the

optional RAM chip installed, " DATA 100%" is 40K (standard 8K + optional 32K).

Clearing the Print Buffer

If you are trying to perform one of the following options in the Command-Vue setup menu:

- ❑ Print a demo
- ❑ Print a help page
- ❑ Print a configuration report
- ❑ Load a macro
- ❑ Select an emulation

and you see "DATA IN BUFFER" displayed when you press the SAVE key, you must either wait until printing is completed or clear the buffer before continuing. Follow the steps above to do this. The display will then return to the option you were trying to perform and you can continue.

If you wish to clear the data in the print buffer, follow these steps:

1. If the printer is on-line, press the ON LINE key to take it off-line.
2. While holding down the SAVE key, press the ON LINE key for 3 seconds. The data in the print buffer will be cleared and the printer will return to the previous display.

The buffer is now cleared.

Chapter 3
Paper Handl

Your GSX 140 printer o
kinds of paper you can
unloading them. This c
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- ❑ Paper types
- ❑ Installing the tractor
- ❑ Setting the paper thic
- ❑ Setting the paper sele
- ❑ Paper-loading summa
- ❑ Printing on continuo
  multi-part forms and
- ❑ Special features—pap
  adjustment and paper

Even more choices becor
optional items described

Paper Types

Your GSX 140 can handle
including continuous pa
forms and labels.

Chapter 3
Paper Handling

Your GSX 140 printer offers great versatility in the kinds of paper you can use and ways of loading and unloading them. This chapter discusses the details of these features in the following sections:

- ❑ Paper types
- ❑ Installing the tractor unit
- ❑ Setting the paper thickness lever
- ❑ Setting the paper select lever
- ❑ Paper-loading summary chart
- ❑ Printing on continuous paper, single sheets, multi-part forms and labels
- ❑ Special features—paper tear-off, top-of-form fine adjustment and paper parking

Even more choices become available through the optional items described in Appendix C, "Options."

Paper Types

Your GSX 140 can handle many types of paper including continuous paper, single sheets, multi-part forms and labels.

Continuous paper

Perforated paper is available in several widths. Your printer can handle any continuous paper that is between 3 inches and 9¼ inches wide (this width does not include the sprocket margin). Length is variable (use the Utility and Reference disk or see Chapter 6, "Command-Vue Setup Menu").

Single sheets

These can also vary in width and length. The paper guide can accommodate paper as narrow as 7.2 inches and as wide as 10 inches. Set the length with the Utility program or see Chapter 6, "Command-Vue Setup Menu" for length selections.

Thick paper

Paper up to .007 inches thick will feed smoothly through this printer. This allows you to use bond or ledger up to 27 lb. However, for thicker papers you will need to adjust the printhead away from the platen. See "Setting the paper thickness lever" below for details.

Multi-part forms

The GSX 140 can print on three-part forms (one original and two copies) with the tractor mechanism in either the "push" or "pull" position. Four-part forms are possible with the tractor mechanism in the "pull" position. Four-part forms require that the CPY MODE menu be set "ON." Make this setting with the Utility program or read the "copy mode" section of Chapter 6, "Command-Vue Setup Menu," for further instructions.

Multi-part forms wi
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Labels

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Installing the Tract

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Refer to Table 3-2 fo
type of paper.

Installing the tractor in

The printer comes f
unit installed in the

Multi-part forms which have all layers of approximately the same weight paper will give you the best printing results.

Labels

Use only continuous labels. Always feed them through the bottom of the printer (with the tractor in the "pull" position) for optimum printing results. Cut sheet labels and rear-feed continuous labels make almost a full circle around the platen, causing labels to pop off occasionally. Also, you should never reverse-feed labels through the printer.

Installing the Tractor Unit

How you install the tractor unit and load paper into the printer depends on what kind of paper you have selected. The tractor unit has two positions: "push" and "pull."

The tractor unit is mounted in the "push" position at the factory. When installed, it fits snugly into the rear of the printer. It works by gripping the edges of the continuous paper and pushing it under and around the platen until the paper comes out the top of the printer.

With the tractor installed in the "pull" position, paper is "pulled" through the printer, either from the rear of the printer or through the slot in the bottom of the printer.

Refer to Table 3-2 for tractor unit positions for each type of paper.

Installing the tractor in the "push" position

The printer comes from the factory with the tractor unit installed in the "push" position (see Figure 3-1).

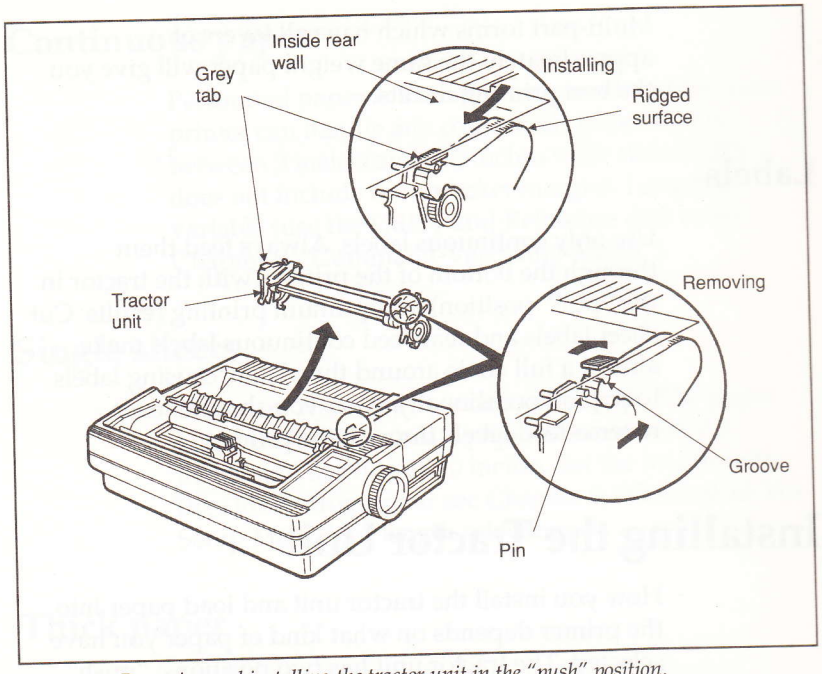

Figure 3-1. Removing and installing the tractor unit in the "push" position.

These instructions are needed only if someone has removed the tractor from your GSX 140 or installed it in the "pull" position.

1. Remove any paper from the tractor.
2. To remove the tractor from the "pull" position: Using two hands, grasp the two ends of the tractor unit with your thumbs on the grey release tabs and your fingers behind.
3. Press with your thumbs and push the tractor backwards when the grey tabs release. The unit will lift up easily.
4. Set the tractor unit down in the rear printer opening.
5. Locate two small pins pointing outward to the sides of the opening. When the tractor is correctly

installed, these pins will be clamped into a small groove located just under the grey release tabs.

6. Place a forefinger between each black end of the tractor and the rear wall of the printer opening. Your fingers will be against a ridged surface. Brace your thumbs on the top sides of the printer opening.

7. Pull the tractor toward you with your forefingers until the grey tabs snap over the pins.

Installing the tractor unit in the "pull" position

Follow these instructions to install the tractor unit in the "pull" position:

1. Remove the top cover.

2. Remove any paper currently loaded in the printer.

3. Place your thumbs on the small grey tabs located on both ends of the tractor unit. See Figure 3-2. Grip the outside of the printer with your fingers. Push down and back with force. The tractor unit will pop backwards when it releases.

4. Lift the tractor out with the metal crossbars.

5. Look at the printer and locate the four small pins at each end of the central unit. In each set of four, two pins extend inward and two point outward. In the "pull" position, the tractor unit touches only the pin on each end which points outward and is closest to the front of the printer. See Figure 3-2.

6. Using two hands, hold both ends of the tractor unit and position the tractor above the central portion of the printer. The tractor feeders which grip the paper will be facing you and the round crossbar will be above the square crossbar.

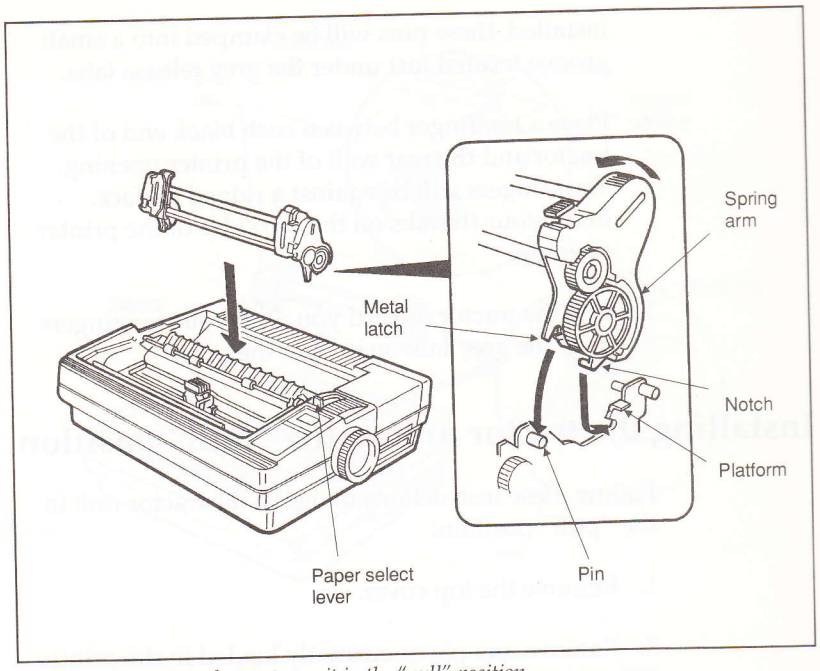

Figure 3-2. Installing the tractor unit in the "pull" position.

7. Seat the notch at the bottom of the spring arms around the small square platforms identified in Figure 3-2. *Keep the tractor seated* while you tilt the unit toward you. The metal latches extending downward from the tractor unit will engage the two pins specified above in Step 5. When correctly installed, the tractor unit will click into place and feel very solidly attached. The tractor feeders will be almost vertical.

8. Make sure the paper select lever is in the forward (continuous forms) position.

Setting the Paper Thickness Lever

Paper up to .007 inches thick will feed smoothly through this printer. This allows you to use bond or ledger up to 27 lb. However, for thicker papers you

Figure 3-3. Location of paper thickness lev

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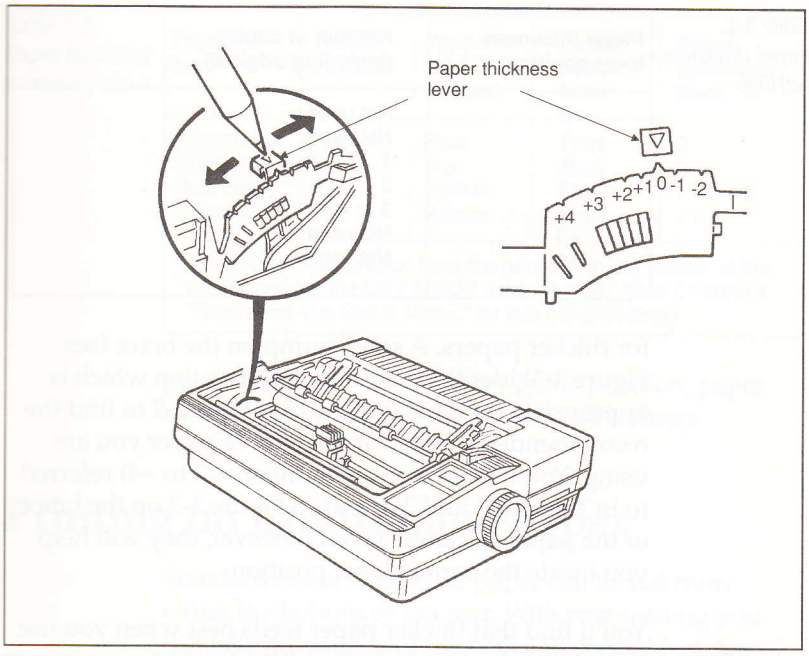

Figure 3-3. Location of paper thickness lever.

will need to adjust the printhead away from the platen. This increases the impact power of the printhead to accommodate thicker paper or multi-part forms. For all other papers, keep the lever set to the standard position; there is a raised pointer at this position. Remembering to make this small adjustment will give you the best printing results. See Figure 3-3.

Regardless of paper thickness, do not use a setting closer to the platen than the standard position pointer! Smudged output or damage to the printhead could result. See Table 3-1 for the recommended paper thickness settings for the number of copies you are using.

You can find the paper thickness lever by removing the top cover and looking inside the printer opening at the far left end. The lever is mounted on a notched brace. Move the lever toward the front of the printer

Table 3-1. Paper thickness settings

Paper thickness lever position	Number of copies (including original)
-2	Not used
-1	Not used
0	1
+1	2
+2	3 or 4
+3	Not used
+4	Not used

for thicker papers. A small bump on the brace (see Figure 3-3) identifies the standard location which is appropriate for most papers. Use Table 3-2 to find the recommended setting for the type of paper you are using. You will not see the numbers (-2 to +4) referred to in Tables 3-1 and 3-2, and in Figure 3-3 on the brace of the paper thickness lever; however, they will help you locate the correct lever position.

You'll find that thicker paper feeds best when you use the bottom-feeding feature of the GSX 140.

Setting the Paper Select Lever

The paper select lever (Figure 3-4) adjusts the GSX 140 for either continuous or single sheet paper. If you look closely at the lever, you'll see what looks like a paper stack and single sheet of paper next to the lever. The lever is moved forward (to the paper stack) for continuous paper and back (to the single sheet) for single sheets.

Use Table 3-2 to find the recommended setting for the type of paper you are using.

Paper Handling Summary Chart

Table 3-2 provides recommendations for the type of paper you are using, including tractor unit position,

Table 3-2. Paper handling summary chart

Paper type	Tractor position	Paper-feed method	Paper select lever	Paper thickness lever
Continuous	Push	Rear	Front	0
Single-sheet	Push	Top	Back	0
Multi-copy*	Pull	Bottom	Front	+1 or +2
Labels	Pull	Bottom	Front	+1

* To print on 4-part paper, feed the paper from the bottom of the printer and set the CPY MODE menu to "ON." (See Chapter 6, "Command-Vue Setup Menu," for this menu setting.)

paper-feeding method, paper guide position, paper select lever and paper thickness lever settings.

Printing on Continuous Paper

Standard continuous-feed paper can be fed from either the bottom or the rear. With rear-feeding you can take advantage of the GSX 140 special features of paper tear off, top-of-form fine adjustment and paper parking. You can stack the paper on the desk or table behind the printer. (Be sure to allow space for the exiting paper so that it does not interfere with the incoming paper.) With bottom-feeding, you have convenient paper storage and less curling around the platen. We recommend the "push" position.

Follow these steps to load continuous paper:

1. Be sure the tractor is mounted in the "push" position. If it is not, use the instructions earlier in this chapter to install it.

2. Move the paper select lever to the forward (paper stack) position.

3. Unlock the lock levers on the tractor feeders and adjust them to the approximate paper width. See Figure 3-4.

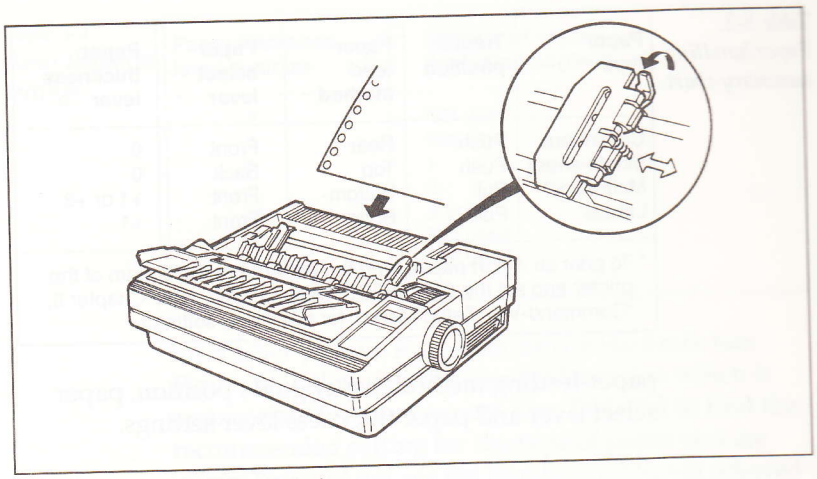

Figure 3-4. Adjusting the paper feeders.

4. Open the tractor feeder covers and place the paper on the sprocket pins. Close the covers to clamp the paper.

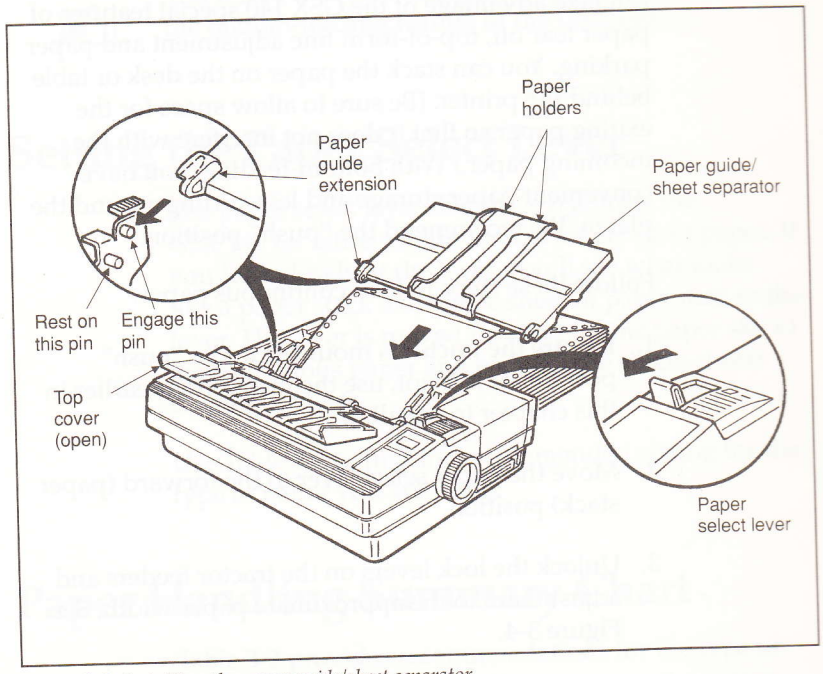

Figure 3-5. Installing the paper guide/sheet separator.

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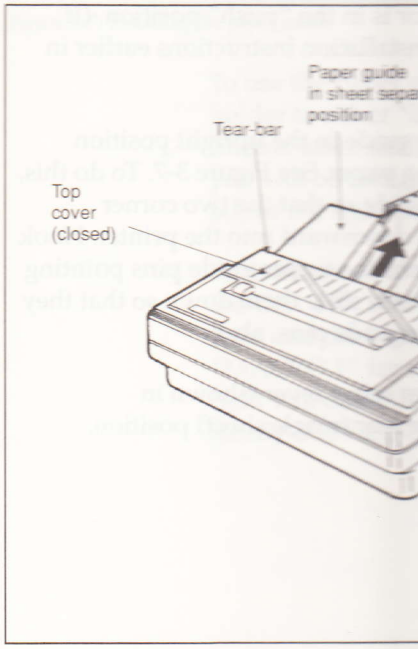

Figure 3-6. Continuous paper feeding into the pr

5. Adjust the paper feeders until the paper is just taut between them, then relock the levers. See Figure 3-4.

6. Install the paper guide/sheet separator in the sheet separator position. (See Figure 3-5.) Do this by engaging the small extensions on the lower left and right corners of the paper guide onto the small pins pointing into the printer. Be sure you are using the higher of the two pins on each side.

   Recline the paper guide backward. At the same time, the front end of the paper guide will slide forward slightly. The small extensions will rest on top of the second set of pins which point into the printer. Correctly installed, the paper guide will incline about 15 degrees. See Figure 3-6.

7. Move the paper holders from the sides into the middle of the paper guide. This prevents your

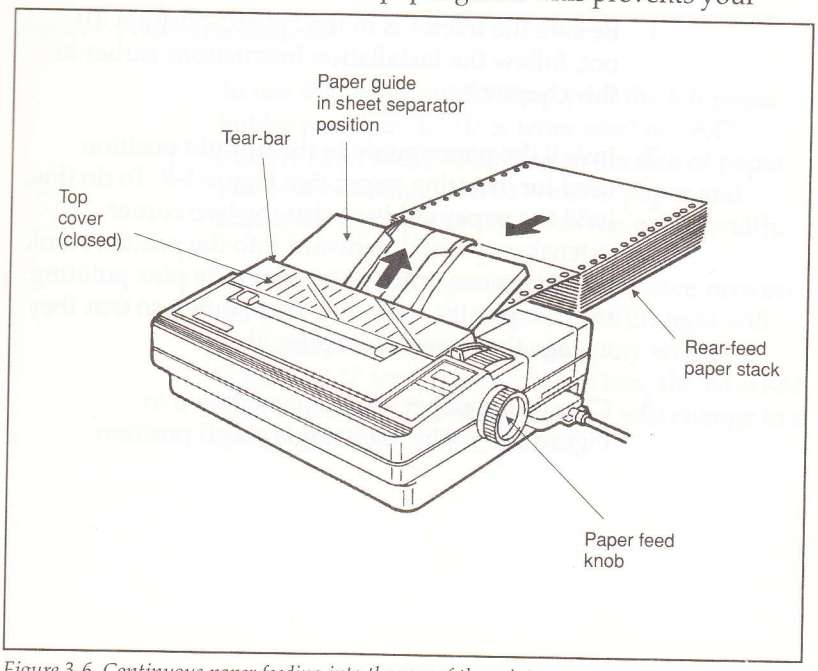

Figure 3-6. Continuous paper feeding into the rear of the printer.

printed output from becoming accidentally jammed in the paper guide on its way out of the printer. See Figure 3-6.

8. Turn on the printer.
9. Push the PARK LOAD key. This will advance the paper to the starting print position.
10. Press the ON LINE key.

Printing on Single Sheets

Single sheet feeding allows you to print on your company letterhead as well as many other types of paper which are not available as continuous paper. It is a very easy procedure with the GSX 140 printer. Follow these steps:

1. Be sure the tractor is in the "push" position. (If not, follow the installation instructions earlier in this chapter.)
2. Install the paper guide in the upright position used for inserting paper. See Figure 3-7. To do this, hold the paper guide so that the two corner extensions point downward into the printer. Hook the extensions onto the upper guide pins pointing into the printer, then slide them down so that they engage the lower guide pins, also.
3. Change the paper select lever (shown in Figure 3-7) to the rear (single sheet) position.

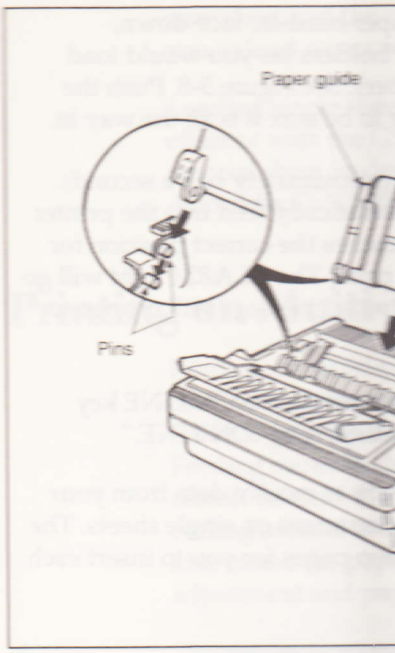

Figure 3-7. Installing the paper guide.

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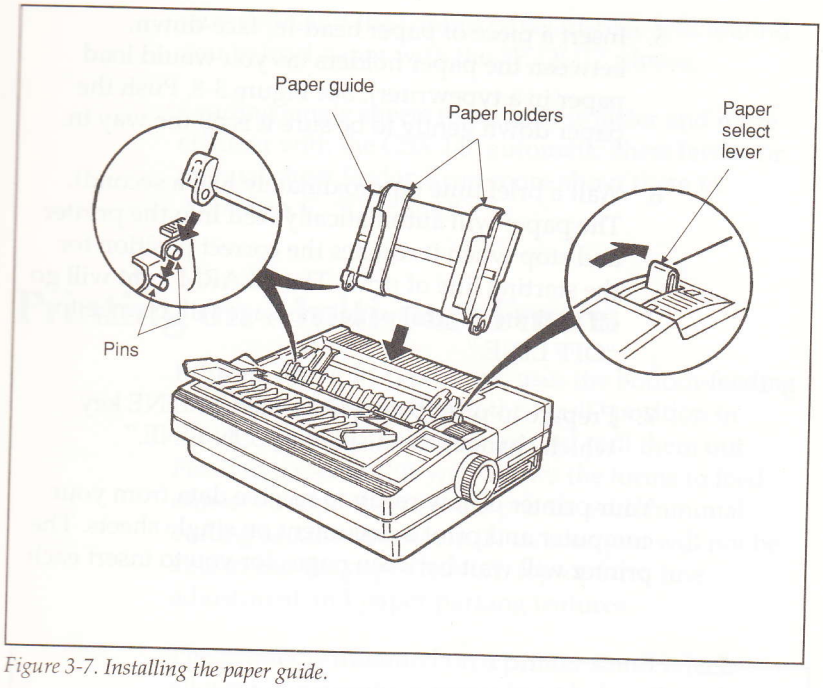

Figure 3-7. Installing the paper guide.

To use the paper guide, simply set the left paper holder to either "L" (U.S. letter size) or "A4" (metric letter size), according to the size of paper you will be using. Insert a sheet of paper and adjust the right paper holder to the paper width.

4. With the sheet of paper out of the printer, turn on the GSX 140. You will see the POWER light will light and the Command-Vue display will flash "MACRO 1" for a few seconds. Then, the ALARM light will come on and the display will change to a steady "OFF LINE/P. OUT."

5. Insert a piece of paper head-in, face-down, between the paper holders (as you would load paper in a typewriter). See Figure 3-8. Push the paper down gently to be sure it is all the way in.

6. Wait a brief time (approximately half a second). The paper will automatically feed into the printer and stop when it reaches the correct position for the starting line of print. The ALARM light will go off and the control panel message will change to "OFF LINE."

7. Prepare to print by pressing the ON LINE key which changes the display to "ON LINE."

Your printer is now ready to receive data from your computer and print a document on single sheets. The printer will wait between pages for you to insert each

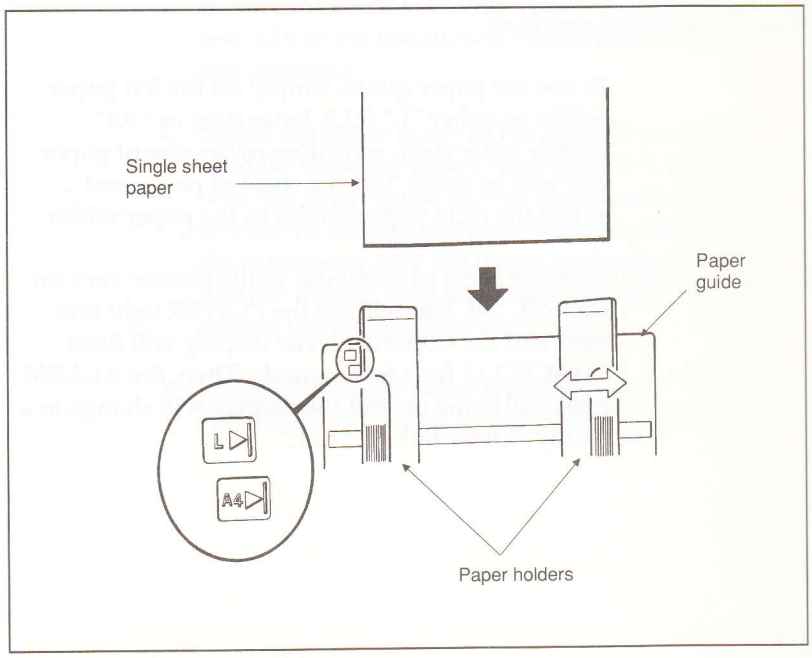

Figure 3-8. Adjusting the paper holders.

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Loading single sheets
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Printing on Multi-pa

Printing on multi-part
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Figure 3-9. Bottom paper feeding.

new sheet and the control panel display will remind you to load paper with the "P. OUT" phrase.

Loading single sheets repeatedly is faster and more efficient with the GSX 140 automatic sheet feeder or manual sheet feeder. Read more about them in Appendix C, "Options."

Printing on Multi-part Forms

Printing on multi-part forms uses the bottom-feeding method with the tractor in the "pull" position in order to grip the exiting forms and pull them out. Feeding paper in this way allows the forms to feed almost straight through the printer with minimal curling around the platen. However, you will not be able to use the paper tear off, top-of-form fine adjustment and paper parking features.

The printer is mounted on a printer stand which allows your supply of forms to sit below the printer. (See Appendix C, "Options," for the recommended printer stand, as shown in Figure 3-9.)

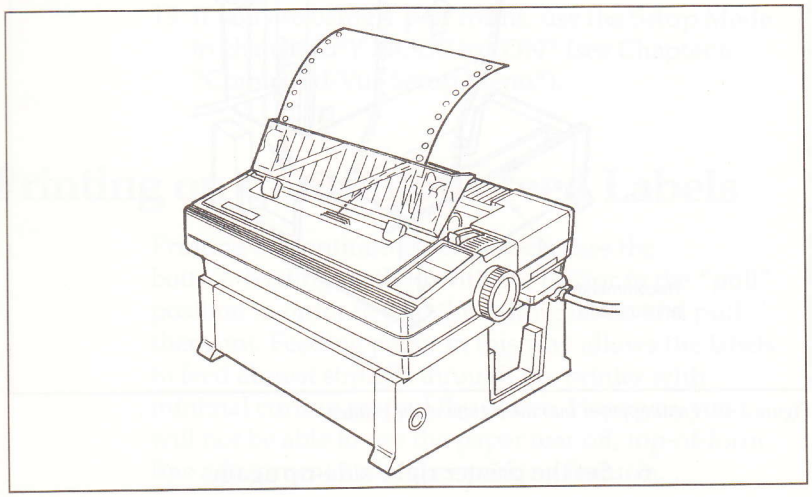

Figure 3-9. Bottom paper feeding.

Follow these steps to load multi-part forms:

1. Be sure the tractor is in the "pull" position. If not, install it following the instructions earlier in this chapter.
2. Turn off the printer before loading the forms in from the bottom.
3. Remove the top cover.
4. Set the printer on its rear side.
5. Insert the forms through the slot in the bottom of the printer. See Figure 3-10. Pull the forms through so that 4 or 5 inches extend out of the printer.

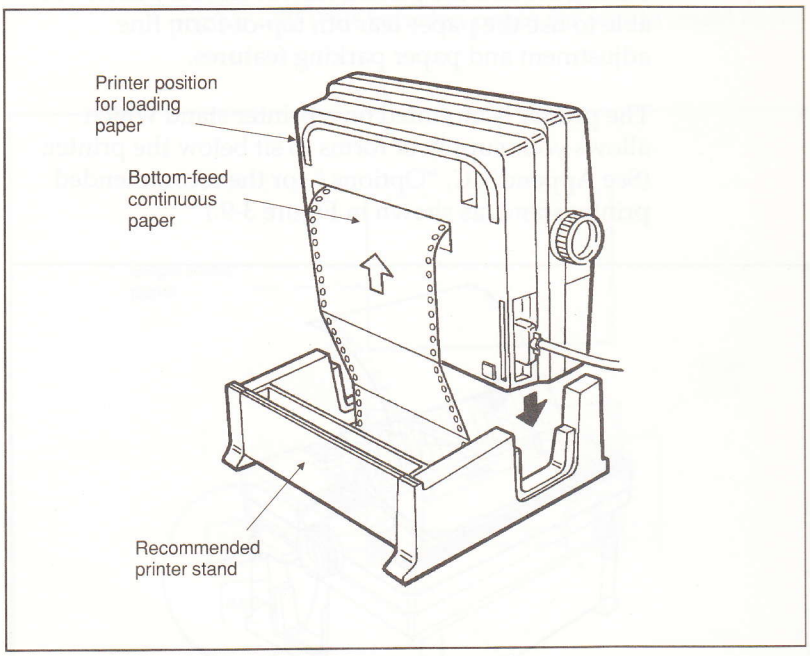

Figure 3-10. Feeding paper into the bottom of the printer.

6. Set the printer right-side-up again.

7. Open the tractor feeder covers, position the forms on the sprockets and close the covers. Be sure the paper is straight. Adjust the distance between the tractor feeders, if necessary, by unlocking the lock levers and sliding the feeders until the paper is taut. Relock the levers.

8. Move the paper select lever to the forward (paper stack) position.

9. Turn the paper feed knob clockwise until the second sheet of the forms is at the correct starting print position. When printing with the tractor in the "pull" position, the first sheet of the forms is unusable.

10. Set the paper thickness lever to +1 for 2-part forms, +2 for 3 or 4-part forms (see Table 3-1).

11. Replace the top cover, pressing on the "push" locations. The transparent part of the cover will rest against the tractor unit.

12. Turn on the printer.

13. If you are using 4-part forms, use the Setup Mode to change CPY MODE to "ON" (see Chapter 6, "Command-Vue Setup Menu").

Printing on Continuous-feed Labels

Printing on continuous-feed labels uses the bottom-feeding method with the tractor in the "pull" position in order to grip the exiting labels and pull them out. Feeding paper in this way allows the labels to feed almost straight through the printer with minimal curling around the platen. However, you will not be able to use the paper tear off, top-of-form fine adjustment and paper parking features.

The printer is mounted on a printer stand which allows your supply of labels to sit below the printer. (See Appendix C, "Options," for the recommended printer stand, as shown in Figure 3-9.)

Follow these steps to load labels using Figures 3-9 and 3-10 as a guide:

1. Be sure the tractor is in the "pull" position. If not, install it following the instructions previously described in this chapter.
2. Turn off the printer before loading the labels in from the bottom.
3. Remove the top cover.
4. Set the printer on its rear side.
5. Insert the labels through the slot in the bottom of the printer. See Figure 3-10. Pull the labels through so that 4 or 5 inches extend out of the printer.
6. Set the printer right-side-up again.
7. Open the tractor feeder covers, position the labels on the sprockets and close the covers. Be sure they are straight. Adjust the distance between the tractor feeders, if necessary, by unlocking the lock levers and sliding the feeders until the labels are taut. Relock the levers.
8. Move the paper select lever to the forward (paper stack) position.
9. Turn the paper feed knob clockwise until the labels are at the correct starting print position.
10. Set the paper thickness lever to +1 (see Table 3-1).
11. Replace the top cover, pressing on the "push" locations. The transparent part of the cover will rest against the tractor unit.

12. Turn on the pri

Special Features

Your GSX 140 print
print jobs with seve
paper tear-off, top-
paper parking.

Paper Parking

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12. Turn on the printer.

Special Features

Your GSX 140 printer facilitates starting and ending print jobs with several convenient features. They are: paper tear-off, top-of-form fine adjustment, and paper parking.

Paper Parking

Paper parking is a convenient feature which allows you to switch quickly between continuous-feed paper and single sheets. To use it, your continuous paper must be fed in through the rear of the printer with the tractor in the "push" position.

It works by backing the continuous paper out of the printer to where it is no longer touching the platen. However, the paper remains in the tractor feeders, ready to feed into the printer.

To "park" your continuous paper:

1. After the current job has finished, tear off the paper after the last page. Press the ON LINE key to take the printer off-line. (The control panel message will say "OFF LINE.")

2. Press the PARK LOAD key. The paper will retract to the parking position. The printer will reverse feed the paper a maximum of the current page length plus 6 inches.

You can now feed single sheets into the printer, following the directions earlier in this chapter. Remember that you will need to raise the paper guide from the paper separator position to the upright paper insertion position and change the paper select lever to the rear setting (for single sheets).

When you are ready to switch back to continuous paper, follow these steps:

1. Eject a single sheet of paper (if one remains inserted) by taking the printer off-line and pressing the LF/FF key for 2 or 3 seconds.
2. Pull the paper select lever forward.
3. Make sure the message in the display window is "OFF LINE/P.OUT." Then press the PARK LOAD key. The paper in the "push" tractor will advance to the top-of-form.
4. Press the ON LINE key and you will be ready to print again on continuous paper.

Paper Tear-Off

The top cover of your printer has a tear-bar at the rear edge. It allows you to tear off perforated sheets quickly and smoothly, without wasting a sheet of paper. We have made it extra easy to use this convenience by incorporating an automatic advance to the tear-bar. This is the paper tear-off feature.

You must be printing on continuous paper with the tractor unit in the "push" position to use this feature.

When your computer sends a form feed command and no further data, indicating the end of a print job, the GSX 140 automatically advances the continuous paper up to the tear-bar and stops. All you have to do is reach over and pull the paper across the tear-bar. (See Figure 3-11.)

Sometimes a print job will end in the middle of a page because no form feed command was sent. When that happens, the paper will not automatically advance to the tear-bar. You can manually send a form feed by pressing the ON LINE key once (to take

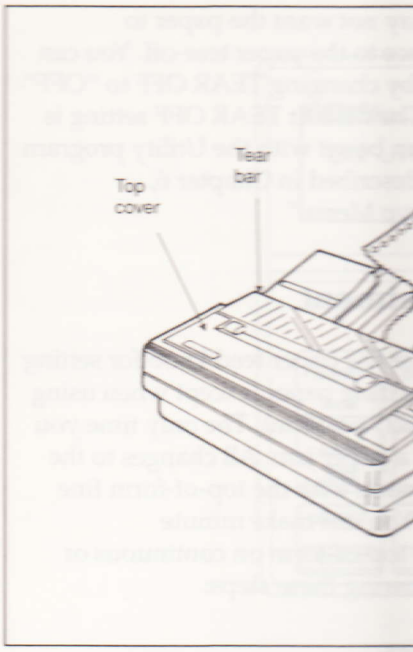

Figure 3-11. Using the tear bar.

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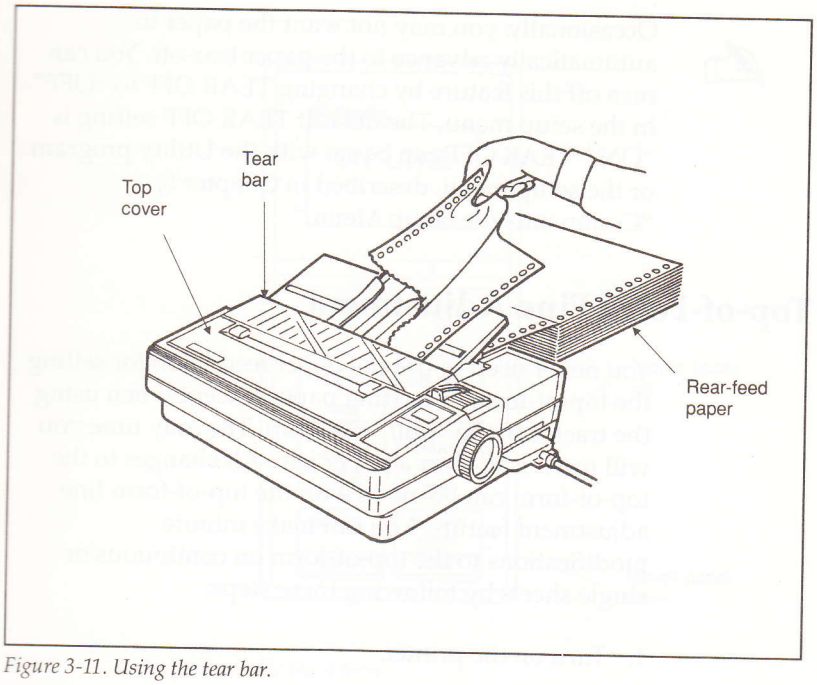

Figure 3-11. Using the tear bar.

the printer off-line) and then holding the LF/FF key for 2 - 3 seconds. This will advance the paper to the paper tear-off position.

When you are ready to print again, the paper retracts back down to the correct top-of-form (starting position). There are two conditions which cause the paper to return to the top-of-form: 1) your computer sends more data, indicating a new print job and 2) you turn on the printer (with paper left at the perforation tear-off position when the power was turned off).

If the paper you are using does not advance to the perforation, check the length of your paper against the "form length" setting on your printer. Form length is set with the Utility program or with information provided in Chapter 6, "Command-Vue Setup Menu."

Occasionally, you may not want the paper to automatically advance to the paper tear-off. You can turn off this feature by changing TEAR OFF to "OFF" in the setup menu. The default TEAR OFF setting is "ON." TEAR OFF can be set with the Utility program or the setup menu, described in Chapter 6, "Command-Vue Setup Menu."

Top-of-Form Fine Adjustment

You never need to use the paper feed knob for setting the top-of-form or feeding paper (except when using the tractor in the "pull" position). The only time you will use it is to clear a paper jam. All changes to the top-of-form can be made with the top-of-form fine adjustment feature. You can make minute modifications to the top-of-form on continuous or single sheets by following these steps:

1. Turn on the printer.
2. Set the paper select lever forward if you are using continuous paper or backward if you are using single sheets.
3. Load paper onto the push tractor or into the paper guide. If you are using single sheets, the paper will automatically advance to the top-of-form, so skip the next step.
4. If you are using continuous paper, press the PARK LOAD key on the control panel.
5. Press the ON LINE key to set the printer on-line. Confirm that two dashes "- -" appear under the words "ON LINE" in the display window. Two dashes "- -" mean that the paper is in the top-of-form. (If not, switch off-line and then press the LF/FF key to advance to the top-of-form. Then switch on-line again.)

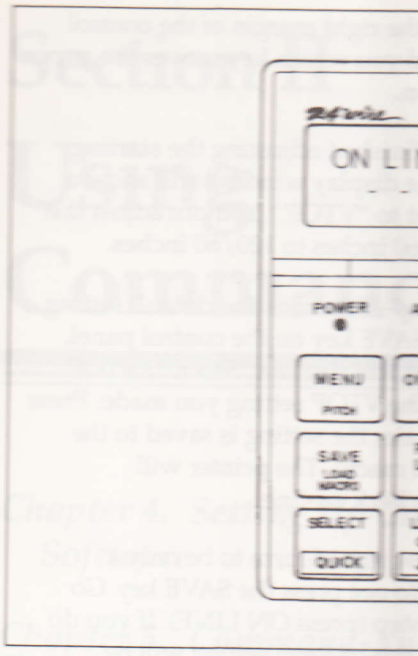

Figure 3-12. Setting the variable top of form.

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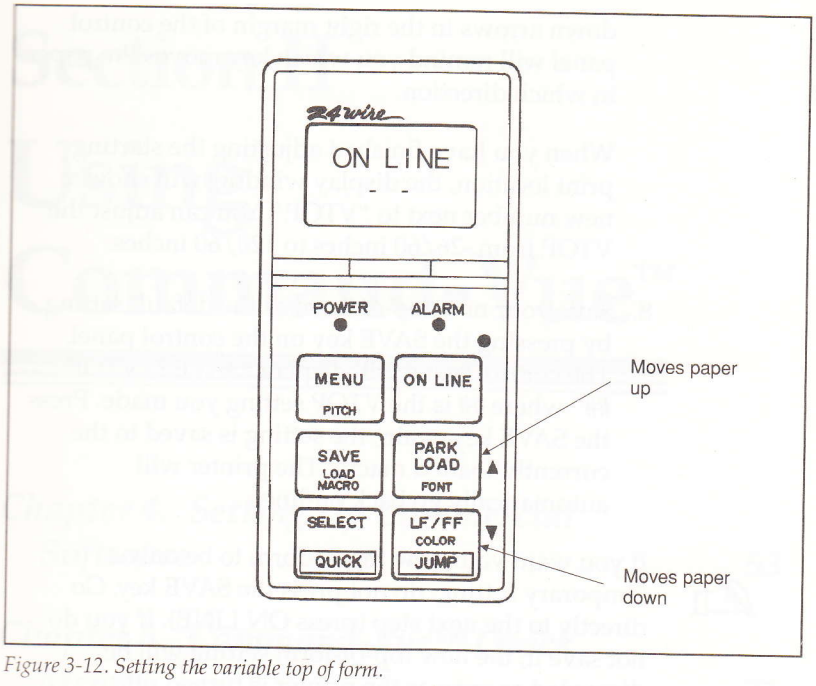

Figure 3-12. Setting the variable top of form.

6. Press and hold the PARK LOAD key or the LF/FF key for 1 - 2 seconds. This step directly enters the function which changes the top-of-form position. However, if you have just finished a print job and the paper is at the tear-bar, this step first retracts the paper to the top-of-form position and into the top-of-form adjusting function. The control panel will display "OFF LINE/VTOP 0."

   "VTOP 0" means "variable top-of-form; current setting is zero." This is the factory setting, which is approximately one inch from the edge of the paper to the top of a normal height character. The VTOP can only be adjusted when the two dashes are displayed in the display window.

7. Press the PARK LOAD key to adjust the paper upwards in 1/60 inch increments. Or, you can press the LF/FF key to adjust the paper downwards in 1/60 inch increments. The up and

down arrows in the right margin of the control panel will remind you which key moves the paper in which direction.

When you have finished adjusting the starting print location, the display window will show a new number next to "VTOP." You can adjust the VTOP from -26/60 inches to 120/60 inches.

8. Save your new top-of-form as the default setting by pressing the SAVE key on the control panel. The control panel will display "SAVE ?/VTOP ##" where ## is the VTOP setting you made. Press the SAVE key again; the setting is saved to the currently-loaded macro. The printer will automatically go back on-line.

If you want your new top-of-form to be only a temporary setting, do not press the SAVE key. Go directly to the next step (press ON LINE). If you do not save it, the new top-of-form setting will be discarded as soon as the printer is turned off.

You can set one VTOP for single sheets and another VTOP for continuous paper and save both settings in one macro. The GSX 140 will sense which VTOP to use by the position of the paper select lever. This convenience eliminates the need to change the top-of-form each time you switch between continuous paper and single sheets.

In addition, since there are four macros and each one can store two VTOP settings, you can save eight different starting print positions. When you save a VTOP setting, it is saved to the currently-loaded macro. For more information on macros, refer to Chapter 7, " Using Command-Vue Macros."

The configuration printout shows the VTOP settings under PG LYOUT/VTOP C ("C" means continuous paper) and PG LYOUT/VTOP S ("S" means single sheet).

Section II
Using Comman

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Chapter 5. Command- Menu . . . . . .

Chapter 6. Command- Menu . . . . . .

Chapter 7. Using Com Macros . . . . . .

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If you're tired of reading, stop now—you can use the GSX 140 like any other printer without reading a single word of Section II. But if you want to learn how to benefit from its advanced features by saving time and producing more attractive printed pages, you'll find some invaluable information. The GSX 140 has some features that have never been combined in a printer before:

- ❑ No DIP switches
- ❑ First printer that is entirely hardware configurable from the computer
- ❑ Intelligence in the printer

No DIP Switches

Earlier printers had a row of tiny switches that controlled many printer features, such as default font, page size, and so on. Most printers had eight switches, but 32 switches was not uncommon. In many printers, they were concealed well enough that some disassembly was required to change them—and then you had to use a ballpoint pen or other tool to change them. The purpose was to allow you to configure your printer to work properly with your software by changing the switch settings. The problem is that they were difficult to change, you had to look in the manual each time to see which switch did what, and then you had to turn the power off and back on for the change to be effective.

With the GSX 140, you have the advantages of DIP switches (flexible configuration for different software) *without the hassle*. Instead of moving tiny switches, you can use the Command-Vue control panel. No disassembly, no tools, and you don't have to turn the power off and back on. Best of all, you won't need a manual to figure out what you're changing—the control panel shows you what your options are.

Hardware Configurable

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Intelligence in the Printe

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Hardware Configurable From Your Computer

We mentioned that you can use the control panel to change printer settings. The GSX 140 also has an even easier way. You can change the printer configuration from your computer using the bonus software included with the GSX 140. This is not the same as sending printer control codes to the printer—just to have them changed or reset by your software. You can actually change the default configuration settings. This will determine the configuration if your software starts its printing with a reset (very common!). You can even set the GSX 140 to ignore printer commands sent by your software.

Intelligence in the Printer

The GSX 140 achieves these benefits by putting the intelligence in the printer—instead of relying on your software (some programs offer excellent printer support; unfortunately, many do not).

First, you'll find that it's easy to use the control panel because its plain English displays tell you exactly what is going on. And for additional help, the GSX 140 can print a one-page setup menu summary.

And if you'd like to know what the printer's current settings are, ask it for a configuration report. In concise form it will show you all the current settings in the printer's memory.

And then, perhaps the most important benefit of the GSX 140's intelligence: it actually stores four complete sets of configuration settings (a complete printer configuration is called a *macro*). You can switch among them with a few keystrokes on the control panel—or even change automatically when you start a new program on your computer. Not only do you avoid monkeying around with DIP switches, but once you've configured the printer for the

programs you use most, *you never have to do it again!* Just switch from your Lotus draft configuration, to your Lotus finished report configuration, to your WordPerfect configuration, back to Lotus...

Benefiting From These Features

First, you should understand that there are basically four ways to change the printer's configuration.

- ***Quick Mode*** allows you to modify some of the most commonly changed settings with just a few keystrokes. You can switch macros, change to a new font (typestyle), change the pitch (type size), or change the printing color (if you have the optional color kit). Quick Mode changes do not affect any of the stored macros, so they are ideal for quick, one-time changes. Chapter 5 explains how to use Quick Mode.

- ***Setup Mode*** allows you to change any of the printer's configuration settings. This allows you to customize the printer for a particular job, since you can change any of the settings without affecting the stored macros. Chapter 6 explains all the settings you can make, and how to make them.

- To set up the printer for use with a frequently-used program, you should define a ***macro***. This is a complete set of configuration options. You can store up to four macros in the printer. Chapter 7 tells how to define and use a macro.

- Citizen has also made it possible to make quick settings to the current configuration, define macros, and load macros from your computer. This gives you complete control of the printer—and you never need to touch it! Chapter 8 describes the programs on the Utility and Reference Disk which make this possible.

Chapter 4
Setting Up Commercia

The GSX 140 is desi
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programs:

- Lotus 1-2-3 versi
- Microsoft Word
- PFS:First Choice
- WordPerfect ver
- WordStar Profes

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Chapter 4
Setting Up Commercial Software

The GSX 140 is designed to work easily with all major software packages. This chapter will help you to set up your software to work properly with the printer. It includes specific information on these popular programs:

- ❑ Lotus 1-2-3 version 2.0
- ❑ Microsoft Word
- ❑ PFS:First Choice version 2.0
- ❑ WordPerfect version 5.0
- ❑ WordStar Professional version 5.0

Before you set up your software, it may help to know just what your software is doing when it prints a file. In addition to sending codes for all the letters, numbers, punctuation, and so on, it sends commands to activate various printer features. Some commands control rather simple "features," such as ending a line or advancing the paper. These commands are practically universal; they are used by nearly every printer.

There are lots of other commands that control more advanced features: character pitch, font style, fine line spacing increments, graphics, and so on. The commands to control these features are different on nearly every brand of printer. Instead of trying to create yet another "standard," Citizen has chosen to

use the same commands as two of the most widely supported printers on the market: the Epson LQ-series and the IBM Proprinter X24. Citizen has enhanced these command sets with a few extra commands that permit additional print styles, such as reverse (black on white) printing.

Communicating with the GSX 140

Different software programs have different methods of sending these commands to the printer. The best (i.e., easiest to use) include printer drivers; these generally offer support for the greatest number of printer features (and you don't ever need to see printer commands). Other programs allow you to enter printer commands in menus or special screens—in effect, creating your own printer driver. Still other programs permit you to insert printer commands in a document ("embedded commands") before it is printed. Finally, some programs use setup strings—a group of commands that can be sent each time the program begins to print.

Knowing how your software works with the printer is an important step towards becoming productive. Most printing problems are the result of software that doesn't interact correctly with the printer. In this chapter we try to give some general advice to help you with any software program, followed by specific tips for many of today's popular commercial programs.

Software that Uses Printer Drivers

Most recent software programs use drivers to control printer functions. Drivers are programs that contain the codes your software uses to access printer features. With this type of program you will seldom, if ever, need to know any of the GSX 140 commands.

Programs that use printer drivers include:

- ❑ Dac-Easy Accounting
- ❑ Framework
- ❑ Microsoft Word
- ❑ Managing Your Money
- ❑ Multimate Advantage II
- ❑ WordPerfect
- ❑ WordStar 2000
- ❑ WordStar Professional

Software that Uses Embedded Commands

Some software provides very limited support of printer features, but the program allows you to insert printer commands at appropriate places in the file. In these programs, the burden is on you to know and understand the commands; to know when and where to use them; and to know how the commands interact with each other and with the program. Obviously, this is not the most desirable type of software. (The good news is that you can use these programs without knowing anything about the printer; you just won't be able to use any of the printer's advanced features.) The commands are explained in the reference program on the Utility and Reference Disk.

Check your program's manual to see how the printer commands can be entered; it's a little different with every program.

The trickiest part of using this type of program is to make sure that the program knows what effect the commands you are using will have. For instance, if you include a printer command that sets a left

margin, you must tell the program what the correct line length will be. Otherwise, it may format text incorrectly.

Programs that use embedded commands to control the printer include:

- ❑ Lotus 1-2-3
- ❑ PFS:First Choice
- ❑ SuperCalc4
- ❑ WordStar 3.3

Software that Uses Setup Strings

Some programs let you enter printer commands in setup strings which are sent at the beginning of each print job. This allows you to select a font, pitch, margins, and other settings that will be used for the entire print job (some of these programs also allow the use of embedded commands). This type of initialization string is seldom needed with the GSX 140, since it allows you to use a macro to set each of these features.

Programs that use initialization strings include:

- ❑ Lotus 1-2-3
- ❑ SuperCalc4
- ❑ Symphony

Using the Control Panel

You can use the control panel menus (or the utility program) to make some settings that are not supported by your software. As explained in Chapter 5, "Command-Vue Quick Menus," and Chapter 6,

"Command-Vue Set
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"software lock" featu
Chapter 4, "Setting U
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Lotus 1-2-3 version

Lotus 1-2-3 (and mos
provide limited print
setup strings and em
capability GSX 140 m
strings, but embedde
for changing print sty
you must install the
these steps:

1. Start the LOTUS
   Install program.
2. Select **First-Time**
   previously install
   Change Selected
3. Now select **Text P**
4. Select **Epson**.
5. Select **LQ-1500**.

"Command-Vue Setup Menu," you can select a font, pitch, line spacing, and color, among other things. Many software programs begin printing by sending a reset command to the printer. On the GSX 140, this resets all control panel settings to those in the currently loaded macro (loading macros is discussed in Chapter 7, "Using Command-Vue Macros").

If you have created a macro to use with your application that contains the default settings you prefer, this is not a problem. If you don't have such a macro loaded, however, your printing will not look the way you expect. That is, unless you use the "software lock" feature on the GSX 140. Discussed in Chapter 4, "Setting Up Commercial Software," the software lock prevents your software from resetting some or all of the print attributes you have requested.

Lotus 1-2-3 version 2.0

Lotus 1-2-3 (and most other spreadsheet programs) provide limited printer control through the use of setup strings and embedded commands. The macro capability GSX 140 makes it unnecessary to use setup strings, but embedded commands can still be useful for changing print style within a worksheet. First, you must install the correct printer drivers. Follow these steps:

1. Start the LOTUS program. Press **I** to begin the Install program.
2. Select **First-Time Installation** if you have not previously installed 1-2-3. Otherwise, select **Change Selected Equipment**.
3. Now select **Text Printers**.
4. Select **Epson**.
5. Select **LQ-1500**.

6. Press the **Esc** key.
7. Select **Graphics Printers**.
8. Select **Epson LQ-1500** for your graphics printer, and then press **Esc**.
9. Follow the prompts to save your changes and then exit the install program.

You need to tell 1-2-3 how the printer is attached to your computer. Use the **/WGDPI** (Worksheet, Global, Default, Printer, Interface) command to select an interface. Then type **QUQ** (Quit, Update, Quit) to save the selection.

You also need to tell PrintGraph about the interface. Use the **SHI** (Settings, Hardware, Interface) command to make your selection, and **QS** (Quit, Save) to save it.

Setting Up Your Printer

To most effectively use your GSX 140 with Lotus 1-2-3, you should define macros that contain the printer settings you need. By using GSX 140 macros to save printer settings, you won't need to make as many settings (such as margins, etc.) within each Lotus worksheet. We recommend that you develop two macros: one for large worksheets that will print in condensed pitch, and one that prints in a letter quality font for presentations. The best way to do this is to use the utility program described in Chapter 8, "Using the Bonus Utility and Reference Disk." For the condensed macro, make these settings:

- ❑ Macro Name: LOTUSCND
- ❑ Emulation: EPSON
- ❑ Font: DRAFT
- ❑ Pitch: 17 CPI

- ❑ Line Spacing: 8 LINES PER INCH
- ❑ Left Margin: 7
- ❑ Perforation Skip: ON

For the letter quality macro, make these settings:

- ❑ Macro Name: LOTUSLQ
- ❑ Emulation: EPSON
- ❑ Font: LQ PRESTIGE
- ❑ Pitch: 12 CPI
- ❑ Line Spacing: 6 LINES PER INCH
- ❑ Left Margin: 12
- ❑ Perforation Skip: ON

Remember to load the appropriate macro before you use Lotus 1-2-3. You will also need to make some settings within Lotus, as described in the following section.

The macro name can only be set with the utility program; it cannot be set from the control panel. This name will be displayed on the Command-Vue panel whenever you load or define the macro. It also displays when you turn the printer on if it is the default macro.

Using Lotus 1-2-3

To print a worksheet, make sure that you have the page size set appropriately for the GSX 140 macro you are using. To do so, follow these steps:

1. Set the page width with **/WGDPR** (Worksheet, Global, Default, Printer, Right). Use **124** for the

condensed macro, and **80** for the letter quality macro. Type **QUQ** to save the changes.

2. Set the page length with **/WGDPP** (Worksheet, Global, Default, Printer, Pg-length). Use **80** for the condensed macro, and **60** for the letter quality macro. Type **QUQ** to save the changes.

3. You can reset the printer to its macro defaults before each print run by entering a setup string. Use the **/WGDPS** (Worksheet, Global, Default, Printer, Setup) command and enter this string: **\027@**.

   This setup string shows how printer commands are sent. A backslash followed by a three-digit decimal number sends the character that number represents (for instance, \027 sends the ESC code). Other characters in a command string are sent just as you type them. So this string sends just two characters: ESC followed by the @ symbol. As explained in the Utility and Reference Disk, this command resets the printer.

You can use embedded commands to change print style. Use the same command format as described in the preceding step. To use an embedded command, place the command in a cell by itself. Put two vertical bars in front of the command.

For example, to print the first row in emphasized print, enter this in cell A1: **|\027E**.

Make sure that the cells containing printer commands are included in the print range.

Microsoft Word

The Microsoft Word word processing program includes .PRD (printer driver) files that support many of the GSX 140 features. Check the list of supported

printers in the *Microsoft Word Printer Information* booklet, on a supplemental sheet titled "Additional Supported Printers for Microsoft Word," and in the PRINTERS.DOC file on the Printers disk. In this order of priority, look for a driver for one of these printers:

- ❑ Citizen GSX 140
- ❑ Epson LQ-500
- ❑ Epson LQ-850 or LQ-1050 with Font Module
- ❑ Epson LQ-2500
- ❑ Epson LQ-800 with Epson identity module
- ❑ IBM Proprinter X24 or Proprinter XL24
- ❑ IBM Proprinter XL

The *Microsoft Word Printer Information* book lists all of the fonts and print enhancements supported by each driver, so you can select the one that best meets your requirements (for instance, in Microsoft Word 4.0 the Epson LQ800IDM.PRD driver offers more fonts, more sizes, and italics; but the IBMPROXL.PRD driver offers double-high fonts). If you want to print in color, you can select the Epson LQ-2500 driver.

Copy the .PRD file to the disk or directory containing your working copy of the Microsoft Word program, or use the Microsoft Word Setup program to install the printer driver.

To select a printer driver file when you run Microsoft Word, press **ESC P O** to select the Print Options menu. To see a list of available drivers, press the **F1** key (if you are using a version of Word earlier than 4.0, press the **right arrow** key to see the list). Move the cursor to the name of the driver you want to use and press the **Enter** key to select it. If you are using the serial interface, enter the port number on the Printer Options menu. If you are using the optional

automatic sheet feeder, set "feed" to "Bin 1" on the Print Options menu; for continuous forms select "Continuous." These selections will be saved by Word until you change them; you do not need to do this each time you run the program.

Setting Up Your Printer

To most effectively use your GSX 140 with Word, you should define a macro that contains the printer settings you need. The best way to do this is to use the utility program described in Chapter 8, "Using the Bonus Utility and Reference Disk." Make sure you make these settings (the other settings are unimportant while using Word):

- ❑ Macro Name: MSWORD
- ❑ Emulation: EPSON or IBM (depending on which driver you selected)
- ❑ Software Lock: OFF

Remember to load this macro before you use Microsoft Word.

The macro name can only be set with the utility program; it cannot be set from the control panel. This name will be displayed on the Command-Vue panel whenever you load or define the macro. It also displays when you turn the printer on if it is the default macro.

Using Microsoft Word

You can select different fonts with the Format Character command. The font names used by Word need a little explanation:

- ❑ Font names ending with "-D" print doublestrike

- ❑ Font names with "F
- ❑ Word font sizes are measurements; a la represents a larger this feature by selec the GSX 140. There select a font with a which is based on Word's 10 point for prints 7.5 cpi).

PFS:First Choice ver

PFS:First Choice is an includes word process communications, and support for many of t First Choice to work steps:

1. Start the program Main Menu, select
2. At the Setup Menu
3. A list of available PgDn to see more priority, look for a
   - ❑ Citizen GSX 14
   - ❑ Epson LQ-500
   - ❑ Epson LQ-2500
   - ❑ Epson LQ-850
   - ❑ Epson LQ-800/
4. Enter the number

- Font names with "PS" are proportionally spaced
- Word font sizes are based on typesetting measurements; a larger font size number represents a larger character. Word implements this feature by selecting different font pitches on the GSX 140. Therefore, a large font size would select a font with a small print pitch number, which is based on characters per inch. For instance, Word's 10 point font prints 12 cpi; the 16 point font prints 7.5 cpi).

PFS:First Choice version 2.0

PFS:First Choice is an easy-to-use program that includes word processing, graphics, spreadsheet, communications, and database modules. It includes support for many of the GSX 140 features. To set up First Choice to work with your printer, follow these steps:

1. Start the program by typing **FIRST**, and from the Main Menu, select **8 - Set up equipment**.
2. At the Setup Menu, select **2 - Select a printer**.
3. A list of available printers will be displayed. Press **PgDn** to see more selections. In this order of priority, look for a driver for one of these printers:
   - Citizen GSX 140
   - Epson LQ-500
   - Epson LQ-2500
   - Epson LQ-850 or LQ-1050
   - Epson LQ-800/1000
4. Enter the number of the appropriate printer.

5. Press the **Tab** key to select a printer port, and enter the port name you are using for your GSX 140.

6. Press the **Enter** key to return to the Setup Menu. Continue with the setup procedure or return to the Main Menu to begin using First Choice with your GSX 140 printer.

Setting Up Your Printer

To most effectively use your GSX 140 with First Choice, you should define a macro that contains the printer settings you need. The best way to do this is to use the utility program described in Chapter 8, "Using the Bonus Utility and Reference Disk." Make sure you make these settings (the other settings are unimportant while using First Choice):

- ❑ Macro Name: PFSFIRST
- ❑ Emulation: EPSON
- ❑ Font: (Select the font you wish to use; First Choice will not change it—except for enhancements such as bold, italics, etc.)
- ❑ Software Lock: FONTS

Remember to load this macro before you use PFS:First Choice.

The macro name can only be set with the utility program; it cannot be set from the control panel. This name will be displayed on the Command-Vue panel whenever you load or define the macro. It also displays when you turn the printer on if it is the default macro.

Using First Choice

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3. At the Print Opti
Printer.
4. From the Select P
Additional Printe
"Printer files not
Then insert the fi
and type the driv
followed by **Ente**
5. Use the **down ar**
until you find on

- ❑ Citizen GSX 1
- ❑ Epson LQ-255

Using First Choice

You can select different font styles with First Choice: boldface, underline, italics, superscript, and subscript. In addition, you can select condensed (17 pitch) print for the entire document from the Print Options menu.

To use the GSX 140's other advanced features, you can use the ***PRINTER*** command to embed printer commands. Use the decimal values for the commands, which are explained in the Reference program.

WordPerfect version 5.0

WordPerfectWordPerfect allows great control over GSX 140 features: you can select any font, pitch, or print enhancement that is available on the printer by selecting the appropriate driver. To select a printer driver, follow these steps:

1. Start the WordPerfect program by typing **WP**.
2. Press **Shift-F7** to select Print.
3. At the Print Options menu, type **S** to choose Select Printer.
4. From the Select Printer screen, type **2** to select Additional Printers. If you see the message "Printer files not found," press **O** (for Other disk). Then insert the first WordPerfect Printers diskette and type the drive letter (for example, "**a:**") followed by **Enter**.
5. Use the **down arrow** key to scroll the list of names until you find one of these:

   - ❑ Citizen GSX 140
   - ❑ Epson LQ-2550

- ❑ IBM Proprinter X24/XL24

If the driver you want is not on the first disk, press **O** (for Other disk) to check each of the printer disks until you find the correct one.

6. When you have placed the highlight on the name of the correct printer driver, press **Enter**. Printer Helps and Hints will be displayed.

7. Press **F7** to exit and move to the Printer Settings menu.

8. If you selected the Epson or IBM drivers because there was no Citizen driver, press **N** to change the printer name. This is the name that will be listed on the Printer Selection menu. We suggest that you call it "Citizen GSX 140 (Epson)" or "Citizen GSX 140 (IBM)."

9. You may wish to change the initial (default) font by pressing **I**.

10. Press **F7** to exit to the Select Printer menu. If you have installed more than one printer, you can select the printer by moving the cursor to the name and then pressing **Enter**. When you save a WordPerfect document, the printer selection is saved with the document.

Setting Up Your Printer

To most effectively use your GSX 140 with WordPerfect, you should define a macro that contains the printer settings you need. The best way to do this is to use the utility program described in Chapter 8, "Using the Bonus Utility and Reference Disk." Make sure you make these settings (the other settings are unimportant while using WordPerfect):

- ❑ Macro Name: WORDPERF

- ❑ Emulation: EPSON
driver you selecte

- ❑ Software Lock: O

Remember to load th
WordPerfect.

The macro name can
program; it cannot b
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Using WordPerfect

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and so on.

WordStar Professio

WordStar Profession
perennially popular
(printer description
the GSX 140 features
printers in the *Word*
Information booklet a
WINSTALL and WS
this order of priority
printers:

- ❑ Citizen GSX 140

- ❑ Epson LQ-500

- ❑ Epson LQ-2500

- ❑ Emulation: EPSON or IBM (depending on which driver you selected)
- ❑ Software Lock: OFF

Remember to load this macro before you use WordPerfect.

The macro name can only be set with the utility program; it cannot be set from the control panel. This name will be displayed on the Command-Vue panel whenever you load or define the macro. It also displays when you turn the printer on if it is the default macro.

Using WordPerfect

You can select a print style with the Font key (**Ctrl-F8**). You can press **4** (Base Font) to change font and pitch; **1** (Size) to change to superscripts and subscripts; or **2** (Appearance) to select enhancements such as boldface, italics, underlining, shadow print, and so on.

WordStar Professional version 5.0

WordStar Professional is the latest incarnation of the perennially popular word processor. It creates .PDF (printer description file) files that support many of the GSX 140 features. Check the list of supported printers in the *WordStar Professional Printer Information* booklet and in the printer menus in the WINSTALL and WSCHANGE setup programs. In this order of priority, look for a driver for one of these printers:

- ❑ Citizen GSX 140
- ❑ Epson LQ-500
- ❑ Epson LQ-2500

- ❑ Epson LQ-850
- ❑ Epson LQ-800 with ESC/P
- ❑ IBM Proprinter X24 or Proprinter XL24
- ❑ IBM Proprinter XL

If you are installing WordStar Professional for the first time, follow these steps to install a printer driver:

1. Start the WordStar installation program, WINSTALL, as described in the Starting section of the WordStar Professional manual.
2. At the Main Installation Menu, select **B Printer**.
3. At the Printer Type Menu, select **All other printers**.
4. Move the highlight to a printer name from the preceding list at the Printer Selection Menu. Press **Enter** to make the selection.
5. Now the program asks you to enter a PDF name. Make sure the name you select is no more than eight characters long (the program will allow you to type in a longer name but ignores the extra characters). We recommend that you use GSXEPSON or GSXIBM, depending upon which printer you selected from the Printer Selection Menu.
6. Return to the Main Menu.
7. To make the GSX 140 your default printer, select **C Choose default**. Press the letter corresponding to the printer driver you want to use. Then press **X** to return to the Main Menu.
8. Continue with your installation if you need to change other options. Then press **X Finished with installation** to leave the installation program.

To add your new printer after WordStar Professional has been installed, follow these steps to install a printer driver:

1. Start the WSCHANGE program, which is described in Appendix C of the WordStar Professional manual.
2. At the Main Installation Menu, select **B Printer**.
3. From the Printer Menu, select **A Install a printer**.
4. At the Printer Type Menu, select **All other printers**.
5. Move the highlight to a printer name from the preceding list at the Printer Selection Menu. Press **Enter** to make the selection.
6. Now the program asks you to enter a PDF name. Make sure the name you select is no more than eight characters long (the program will allow you to type in a longer name but ignores the extra characters). We recommend that you use GSXEPSON or GSXIBM, depending upon which printer you selected from the Printer Selection Menu.
7. To make the GSX 140 your default printer, select **B Choose a default printer** from the Printer Menu. Press the letter corresponding to the printer driver you want to use. Then press **X** to return to the Print Menu. Press **X** again to return to the Main Menu.
8. Continue with your installation if you need to change other options. Then press **X Finished with installation** to leave the customization program.

Setting Up Your Printer

To most effectively use your GSX 140 with WordStar, you should define a macro that contains the printer settings you need. The best way to do this is to use the utility program described in Chapter 8, "Using the Bonus Utility and Reference Disk." Make sure you make these settings (the other settings are unimportant while using WordStar):

- ❑ Macro Name: WORDSTAR
- ❑ Emulation: EPSON or IBM (depending on which driver you selected)
- ❑ Software Lock: OFF

Remember to load this macro before you use WordStar.

The macro name can only be set with the utility program; it cannot be set from the control panel. This name will be displayed on the Command-Vue panel whenever you load or define the macro. It also displays when you turn the printer on if it is the default macro.

Using WordStar Professional

Printing options are controlled with the ^P (**Ctrl-P**) menu. You can use **^P=** to select a font or pitch. **^P?** allows you to select a different printer driver if you have more than one installed.

Chapter 5

Command-
Quick Men

Command-Vue quic
some print settings
you how to make th

- ❑ Color On Comma
- ❑ character pitch
- ❑ font type
- ❑ load macro

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Activating Comma
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Chapter 5

Command-Vue™ Quick Menu

Command-Vue quick menu allows you to change some print settings "on-the-fly." This chapter shows you how to make these changes, including:

- ❑ Color On Command (with the optional color kit)
- ❑ character pitch
- ❑ font type
- ❑ load macro

Print settings changed through Command-Vue quick menu are lost when you turn the printer off. Only settings made with defined macros are saved in the printer's permanent memory and are not lost when you turn the printer off. Refer to Chapters 6, 7 and 8 for details about defining macros.

Activating Command-Vue Quick Menu

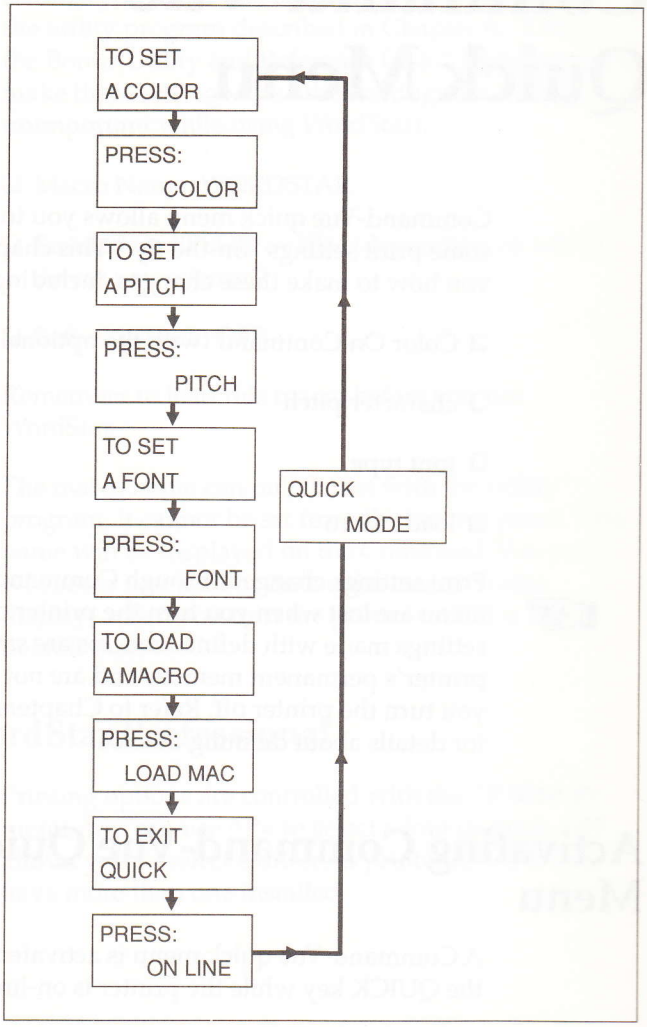
A Command-Vue quick menu is activated by pressing the QUICK key while the printer is on-line.

QUICK MODE

At this point, a series of messages is displayed to

assist you in selecting one of the features you can change.

The messages appear as follows:



The messages continue to appear until you press a key. You can press a key any time you wish; you do not have to wait until the message corresponding to the quick menu you want to activate is displayed. The

following sections describe the procedure for each quick menu.

Color On Command Quick Menu

The ***color*** quick menu lets you change ribbon colors when the optional color kit is installed. (See Appendix C, "Options," for details about the color kit.)

You can change the color either before you print or during printing; the printer will stop printing when you activate the QUICK menu.

Follow these steps to use the ***Color On Command*** quick menu:

1. Make sure that the printer is on-line. If it's not, press the ON LINE key.

ON LINE

   The printer is now on-line.

2. Press the QUICK key. The quick menu is activated.

QUICK MODE

3. Press the COLOR key. The ***Color On Command*** quick menu is selected.

COLOR BLACK

4. Press the SELECT key to scroll through the color selections. They include: "BLACK," "RED,"

"BLUE," "VIOLET," "YELLOW," "ORANGE" and "GREEN."

For example, with "BLACK" showing as the default color, you would press the SELECT key twice to display "BLUE."

If you try changing colors without the color kit installed (or not activated in the setup menu), pressing SELECT will not change color selections.

```
COLOR
BLUE
```

5. When the color you want appears, press the SAVE key; the first character of the selection will be underlined.

```
SAVED
BLUE
```

After 2 seconds, the display returns to:

```
QUICK
      MODE
```

6. Press the ON LINE key to place the printer back on-line.

```
ON LINE
```

The printer will now print in blue.

Pitch Quick Menu

The *pitch* quick m
can change the pit
printing; the printe
activate the QUIC

Follow these steps

1. Make sure that
press the ON L

```
ON LINE
```

The printer is n

2. Press the QUIC

```
QUICK
      MODE
```

3. Press the PITCH
selected.

```
PITCH
10 CPI
```

4. Press the SELEC
selections (CPI
selections inclu
(high speed), "
CPI," "17 CPI,"
CPI" and "20 C
emulation is sel

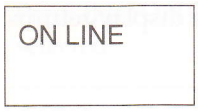
For example, wi
you would pres
select "17 CPI."

Pitch Quick Menu

The ***pitch*** quick menu lets you change the pitch. You can change the pitch either before you print or during printing; the printer will stop printing when you activate the QUICK menu.

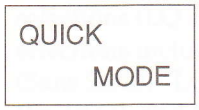
Follow these steps to use the ***pitch*** quick menu:

1. Make sure that the printer is on-line. If it's not, press the ON LINE key.

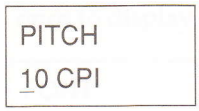
   

   The printer is now on-line.

2. Press the QUICK key. The quick menu is activated.

3. Press the PITCH key. The ***pitch*** quick menu is selected.

4. Press the SELECT key to scroll through the pitch selections (CPI stands for characters per inch). The selections include: "10 CPI" (pica), "HS 12CPI" (high speed), "HD 12CPI" (high density), "15 CPI," "17 CPI," "20 CPI" and "PROPORT." ("15 CPI" and "20 CPI" appear only when the Epson emulation is selected.)

   For example, with 10 CPI as the default selection, you would press the SELECT key four times to select "17 CPI."

```
PITCH
17 CPI
```

5. When the pitch you want appears, press the SAVE key; the first character of the selection will be underlined.

```
SAVED
17 CPI
```

After 2 seconds, the display returns to:

```
QUICK
      MODE
```

6. Press the ON LINE key to place the printer back on-line.

```
ON LINE
```

The printer will now print in 17 pitch at 17 characters per inch.

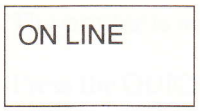
Font Quick Menu

The ***font*** quick menu lets you select any of the fonts that come with your printer.

You can change the font either before you print or during printing; the printer will stop printing when you activate the QUICK menu.

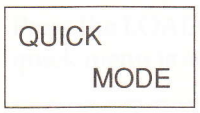
Follow these steps to use the ***font*** quick menu:

1. Make sure that the printer is on-line. If it's not, press the ON LINE key.

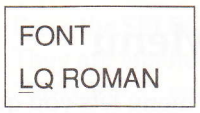


The printer is now on-line.

2. Press the QUICK key. The quick menu is activated.

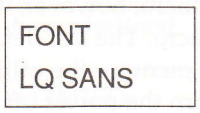


3. Press the FONT key. The ***font*** quick menu is selected.



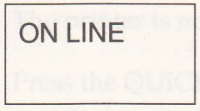
4. Press the SELECT key to scroll through the font selections (LQ stands for letter quality). The selections include: "LQ ROMAN," "LQ SANS" (Sans Serif), "LQ COUR" (Courier), "LQ PREST" (Prestige), and "DRAFT."

   For example, with "LQ ROMAN" showing as the default font, you would press the SELECT key once to display "LQ SANS."



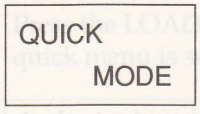
5. When the font you want appears, press the SAVE key; the first character of the selection will be underlined.

   After 2 seconds, the display returns to:

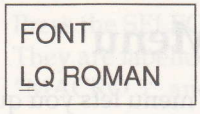


The printer is now on-line.

2. Press the QUICK key. The quick menu is activated.

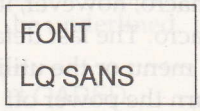


3. Press the FONT key. The ***font*** quick menu is selected.

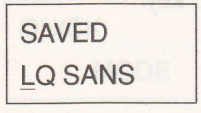


4. Press the SELECT key to scroll through the font selections (LQ stands for letter quality). The selections include: "LQ ROMAN," "LQ SANS" (Sans Serif), "LQ COUR" (Courier), "LQ PREST" (Prestige), and "DRAFT."

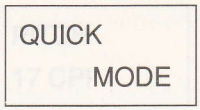
   For example, with "LQ ROMAN" showing as the default font, you would press the SELECT key once to display "LQ SANS."



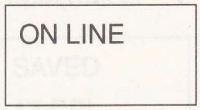
5. When the font you want appears, press the SAVE key; the first character of the selection will be underlined.



After 2 seconds, the display returns to:



6. Press the ON LINE key to place the printer back on-line.



The printer will now print in the letter quality sans serif font.

Load Macro Quick Menu

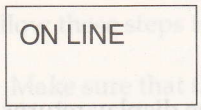
The ***load macro*** quick menu lets you quickly load a macro. (A macro is a set of printer settings you have previously defined and saved. See Chapter 8, "Using the Bonus Utility and Reference Disk," and Chapter 7, "Using Command-Vue Macros,") for details about loading and defining macros.

You can load a macro only before you print. You cannot load a macro during printing.

A macro loaded using the ***load macro*** quick menu becomes the current macro; however, it does not become the default macro. The last default macro loaded with the setup menu or the utility program will be active if you turn the power off and back on.

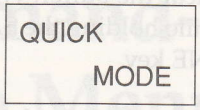
Follow these steps to use the ***load macro*** quick menu:

1. Make sure that the printer is on-line. If it's not, press the ON LINE key.

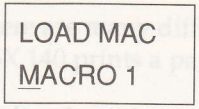


The printer is now on-line.

2. Press the QUICK key. The quick menu is activated.

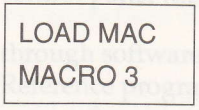


3. Press the LOAD MACRO key. The ***load macro*** quick menu is selected.

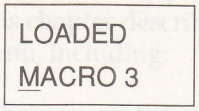


4. Press the SELECT key to scroll through macros. They are labelled "MACRO 1," "MACRO 2," "MACRO 3" and "MACRO 4."

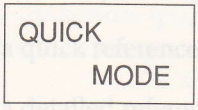
   For example, with "MACRO 1" showing as the default macro, you would press the SELECT key twice to select "MACRO 3."



5. When the macro you want appears, press the SAVE key; the first character of the selection will be underlined.



   After 2 seconds, the display returns to:



If there is already data in the print buffer, "DATA IN BUFFER" is displayed. After 2 seconds, "QUICK MODE" is displayed again. To clear the buffer: With the printer off-line, while holding the SAVE key, press the ON LINE key.

6. Press the ON LINE key to place the printer back on-line.

ON LINE

The printer will now print using the printer settings from Macro 3.

Chapter 6

Command-V Setup Menu

There are many differ
GSX 140 prints a page

- by using commerci "Setting Up Comm
- by using the bonus your GSX 140 (refe Bonus Utility and
- by changing the Co control panel (disc
- through software c Reference program

The Command-Vue s want to make printin with Command-Vue using the Utility prog This chapter describe menu, including:

- how to use the set
- an example using
- a quick reference c
- a detailed referenc

Chapter 6
Command-Vue™ Setup Menu

There are many different ways to control how your GSX 140 prints a page:

- ❑ by using commercial software (see Chapter 4, "Setting Up Commercial Software")
- ❑ by using the bonus Utility program that came with your GSX 140 (refer to Chapter 8, "Using the Bonus Utility and Reference Disk")
- ❑ by changing the Command-Vue setup menu on the control panel (discussed in this chapter)
- ❑ through software commands (refer to the Reference program)

The Command-Vue setup menu is used when you want to make printing changes other than those set with Command-Vue quick menus and you are not using the Utility program or your software program. This chapter describes the Command-Vue setup menu, including:

- ❑ how to use the setup menu
- ❑ an example using the setup menu
- ❑ a quick reference of the setup menu settings
- ❑ a detailed reference of the setup menu settings

Using the Command-Vue Setup Menu

The Command-Vue setup menu is activated by pressing the MENU key when the printer is off-line. When the printer enters the setup menu, you'll see this display:

```
PRNT OUT
  DEMO
```

You always enter the setup menu at the same place.

The setup menu is in serial order; that is, when you reach the end of the setup menu, you will start at the beginning again. There are two levels to the Command-Vue setup menu:

- ❑ menus, which are reached by pressing the MENU key
- ❑ selections, which are reached by pressing the SELECT key

The diagram on the left in Figure 6-1 shows how you can move through all of the menu items by pressing the MENU key. When you reach the menu item you want, pressing the SELECT key will take you into that menu's selections.

You can also "jump" around the setup menu by using jump points. Each jump point contains a set of menu items arranged in a logical group. For example, all print style menus are grouped under the PRN STYL jump point. The diagram on the right in Figure 6-1 shows how you can jump around the setup menu using jump points. Jump points are reached by pressing the JUMP key.

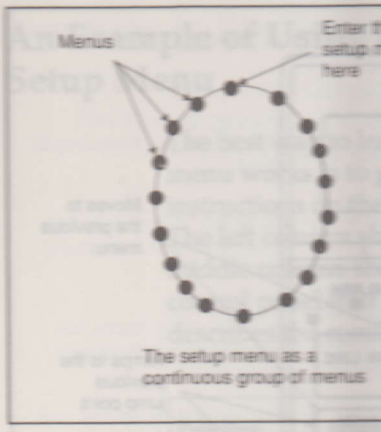


Figure 6-1. Use either menus or jump points

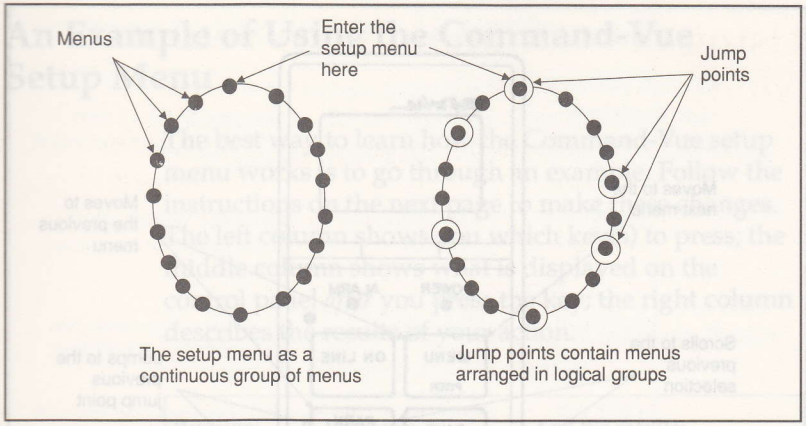


Figure 6-1. Use either menus or jump points to move around the setup menu.

The Command-Vue LCD displays jump points, menus and selections when you are in the setup menu. When jump points are shown on the top line of the display; menus are shown on the bottom line, like this:

```
PRN STYL
FONT
```

When you enter selections, it is shown on the bottom line and the menu is moved up to the top line, like this:

```
FONT
LQ PREST
```

Table 6-1 (later in this chapter) lists all of the setup menu jump points, menus and selections.

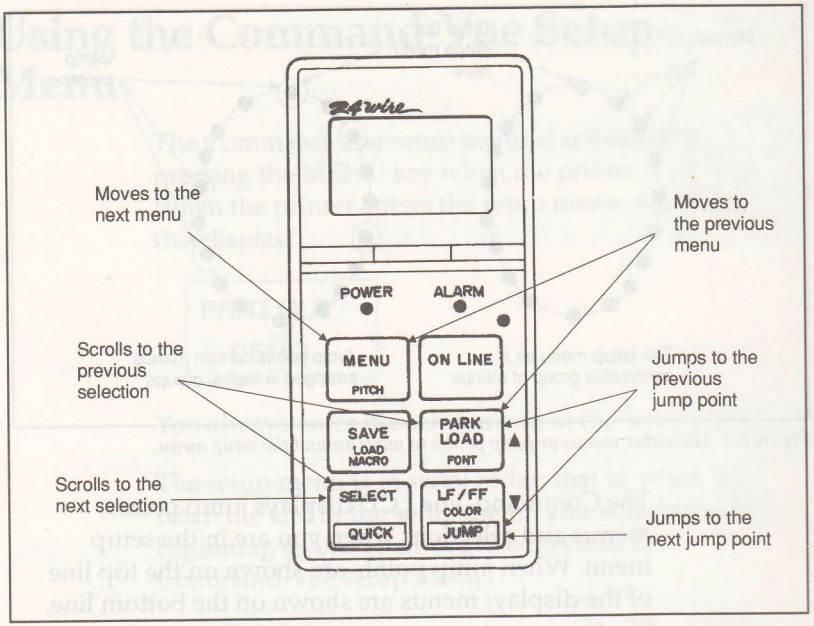


Figure 6-2. Moving around the setup menu.

Moving Around the Command-Vue Setup Menu

When the Command-Vue setup menu is active, you can move around using these keys (Figure 6-2 shows the keys on the control panel):

- ❑ Press the JUMP key to jump to the next jump point.
- ❑ While holding down the PARK LOAD key, press the JUMP key to jump to the previous jump point.
- ❑ Press the MENU key to move to the next menu.
- ❑ While holding down the PARK LOAD key, press the MENU key to move to the previous menu.
- ❑ Press the SELECT key to scroll to the next selection.
- ❑ While holding down the PARK LOAD key, press the SELECT key to scroll to the previous selection.

An Example of Using th Setup Menu

The best way to learn menu works is to go instructions on the m The left column show middle column show control panel *after* yo describes the results

Pressing	Display
ON LINE	OFF LI
MENU	PRINT DEN
JUMP (3 times)	PRN S FONT
SELECT	FONT LQ RO
SELECT	FONT LQ SA
SAVE	FONT LQ SA
JUMP (2 times)	PG L LINE
MENU	PG L FRM
SELECT	FRM 11 IN

An Example of Using the Command-Vue Setup Menu

The best way to learn how the Command-Vue setup menu works is to go through an example. Follow the instructions on the next page to make these changes. The left column shows you which key(s) to press; the middle column shows what is displayed on the control panel *after* you press the key; the right column describes the results of your action.

Pressing:	Displays:	And the results:
ON LINE	OFF LINE	The printer is now off-line.
MENU	PRNT OUT DEMO	Enters the setup menu.
JUMP (3 times)	PRN STYLE FONT	Displays the ***print style*** jump point and the ***font*** menu.
SELECT	FONT LQ ROMAN	Enters the ***font*** menu. Letter quality roman is the first selection.
SELECT	FONT LQ SANS	Changes to the "letter quality sans serif" selection.
SAVE	FONT LQ SANS	Saves the "LQ sans serif" selection in the printer's temporary memory. The "L" is underlined.
JUMP (2 times)	PG LYOUT LINE SP.	"Jumps" to the ***page layout*** jump point and the ***line spacing*** menu.
MENU	PG LYOUT FRM LNTH	Moves to the ***form length*** menu.
SELECT	FRM LNTH 11 INCH	Enters the ***form length*** menu.

(continued)

Pressing:	Displays:	And the results:
SELECT (4 times)	FRM LNTH 15 INCH	Changes to the 15 inch selection in the *form length* menu.
SAVE	FRM LNTH 15 INCH	Saves the 15 inch selection in the printer's temporary memory.
ON LINE	OFF LINE	Exits the setup menu but the printer is still off-line.
ON LINE	ON LINE	Sets the printer on-line. All setup menu changes are active.

Returning to Off-line

You can return to off-line status by pressing the ON LINE key any time you're in the setup menu. When you do this, the last settings are effective (whether they are set through the control panel or by software control).

Saving Your Changes

Changes are saved by pressing the SAVE key while the menu selection is displayed on the control panel. For example, pressing SAVE while the "LQ SANS" selection is displayed in the "FONT" menu saves the sans serif font as the active font. The first character will be underlined, like this: "LQ SANS" indicating it is active.

All changes saved in this manner are lost when you turn the power off. You must define these selections in a macro in order for them to be saved permanently. Refer to Chapter 7, "Using Command-Vue Macros," for details.

Resetting to the Factory

The printer comes fr
selections on the set
printer to its factory

1. Take the printer
key.
2. While holding d
ON LINE and P
seconds. The pri

FACTORY
INITIAL

for 2 seconds and th

OFF LINE

Resetting the printe
four macros previou
to the factory defau

Command-Vue Se
Reference

The Command-Vue
points, menus and
the order shown in
complete descriptio

Menus marked (Ep
is selected in the *ev*
menus marked (IB
selected. The select
underlined is the f

Resetting to the Factory Defaults

The printer comes from the factory with default selections on the setup menu. You can reset the printer to its factory defaults by doing the following:

1. Take the printer off-line by pressing the ON LINE key.
2. While holding down the SELECT key, press the ON LINE and PARK LOAD keys for more than 3 seconds. The printer will display:

FACTORY
INITIAL

for 2 seconds and then:

OFF LINE

Resetting the printer using this method will erase *all four* macros previously defined and change them *all* to the factory default selections.

Command-Vue Setup Menu Reference

The Command-Vue setup menu is a series of jump points, menus and selections appearing cyclically in the order shown in Table 6-1. Following this table is a complete description of each item.

Menus marked (Epson) appear only when "EPSON" is selected in the ***emulation*** (EMLATION) menu; menus marked (IBM) appear only when "IBM" is selected. The selection with the first character underlined is the factory default for Macro 1.

Table 6-1. Command-Vue setup menu

Jump point	Menu	Selections (default = _)
PRNT OUT	DEMO	
	HELP	
	CONFIG	CURRENT
		DEFAULT
MAC CTRL	LOAD MAC	MACRO 1
		MACRO 2
		MACRO 3
		MACRO 4
	DEFN MAC	MACRO 1
		MACRO 2
		MACRO 3
		MACRO 4
EMLATION	EMLATION	EPSON
		IBM
PRN STYL	FONT	DRAFT
		LQ ROMAN
		LQ SANS
		LQ COUR
		LQ PREST
	PITCH (Epson)	10 CPI
		HS 12 CPI
		HD 12 CPI
		15 CPI
		17 CPI
		20 CPI
		PROPORT
	PITCH (IBM)	10 CPI
		HS 12 CPI
		HD 12 CPI
		17 CPI
		PROPORT
	CONDENSE	OFF
		ON
	ZERO (IBM)	NO SLASH
		SLASH
	ITALICS (Epson)	OFF
		ON

Table 6-1 (cont.) Command-Vue setup menu

Jump point	Menu
	COLOR
	AGM MO (IBM)
PRN MODE	CPY MOD
	TEXT DIR
	GRPH DI
	SW LOCK
PG LYOUT	LINE SP.
	FRM LNT
	PG SKIP
	RT MARG
	LT MARG
INSTALL	RIBBON
	A.S.F.

Table 6-1 (cont.) Command-Vue setup menu

Jump point	Menu	Selections (default = _)
	COLOR	BLACK RED BLUE VIOLET YELLOW ORANGE GREEN
	AGM MODE (IBM)	OFF ON
PRN MODE	CPY MODE	OFF ON
	TEXT DIR	BI DIR UNI DIR
	GRPH DIR	BI DIR UNI DIR
	SW LOCK	OFF FONTS ALL STYL
PG LYOUT	LINE SP.	6 LPI 8 LPI HOST DEF
	FRM LNTH	6 INCH 8 INCH 11 INCH 11.6INCH 12 INCH 14 INCH 15 INCH HOST DEF
	PG SKIP (Epson)	OFF ON
	RT MARGN	##CLMN (Default value = 80)
	LT MARGN	##CLMN (Default value = 0)
INSTALL	RIBBON	NORMAL COLOR
	A.S.F.	OFF ON

Table 6-1 (cont.) Command-Vue setup menu

Jump point	Menu	Selections (default = _)
	AUTO CR (IBM)	OFF ON
	AUTO LF	OFF ON
	SLCT IN (Epson)	IGNORE ACTIVE
	CTZN ESC	OFF ON
	REV LF	OFF ON
	PG CNTR	## (Default value = 40)
	PAPR OUT	ENABLE DISABLE
	TEAR OFF	OFF ON
CHR TABL	COUNTRY (Epson)	U.S.A. FRANCE GERMANY U.K. DENMRK 1 SWEDEN ITALY SPAIN 1 JAPAN NORWAY DENMRK 2 SPAIN 2 LTN.AMER LEGAL
	CHR SET (Epson)	ITALICS GRAPHICS
	CODE PG (IBM)	U.S.A. MULTI PORTUGAL CANADA NORWAY SCANDNVA
	CHR SET (IBM)	SET 1 SET 2

Table 6-1 (cont.) Command-Vue setup menu

Jump point	Menu	Selections (default = _)
	SPECIAL SET?	
	RS-232C BAUDRATE	9600 4800 2400 1200 600 300 110
	RS-232C PARITY	NONE ODD EVEN
	RS-232C DATA BIT	8 BIT 7 BIT
	RS-232C STOP BIT	2 BIT 1 BIT
	RS-232C PROTOCOL	XON/XOFF DTR
	OPTN RAM (appears only when optional expansion memory is installed)	BUFFER DOWNLOAD

Pressing the MENU key when the SPECIAL/SET? message appears returns you to the top jump point. When the SPECIAL/SET? message appears, pressing the SELECT key allows you to enter the special setting menus: RS-232C and OPTN RAM.

Printout (PRNT OUT) Jump Point

The ***printout*** (PRNT OUT) jump point contains the following menus that print out various reports:

- ***demo printout*** (DEMO)
- ***help printout*** (HELP)
- ***configuration printout*** (CONFIG)

The DEMO and HELP menus do not have selections, and pressing the SAVE key after selecting one of these menus causes the printer to print the corresponding report.

Demo Printout (DEMO)

PRNT OUT
DEMO

The ***demo printout*** (DEMO) menu is the first menu that appears in the setup menu. Pressing the SAVE key prints a demo sheet.

If there is already data in the print buffer, the printer will display "DATA IN BUFFER" when you press the SAVE key to print out the demo. To clear the buffer: In off-line, while holding the SAVE key, press the ON LINE key.

You can interrupt the test by pressing the ON LINE key; pressing ON LINE again resumes the test. After printing the page, the printer automatically returns to off-line.

Help Printout (HELP)

PRNT OUT
HELP

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Configuration Printout (CON

PRNT OUT
CONFIG

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characteris

Selections: CURRENT
Prints the
current sel
setting, an

DEFAULT
Prints the

Help Printout (HELP)

PRNT OUT
HELP

Use the ***help printout*** (HELP) menu when you want to see help information on the functions of keys on the control panel.

Pressing the SAVE key prints information about using the control panel.

If there is already data in the print buffer, the printer will display "DATA IN BUFFER" when you press the SAVE key to print out help. To clear the buffer: In off-line, while holding the SAVE key, press the ON LINE key.

You can interrupt the test by pressing the ON LINE key; pressing ON LINE again resumes the test. After printing the page, the printer automatically returns to off-line.

Configuration Printout (CONFIG)

PRNT OUT
CONFIG

The ***configuration printout*** (CONFIG) menu prints a configuration report which shows the current printer settings. You can print either a report that shows either the current settings or the default settings. A sample of each is shown in Figure 6-2. You may want to print a configuration report before or after changing the printing characteristics.

Selections:

CURRENT
Prints the current printer settings. If a current selection is the same as its default setting, an asterisk (*) is printed after it.

DEFAULT
Prints the default settings for each macro.

Configuration report showing current printer settings.

CITIZEN GSX-140

Current Configuration

		MACRO 1	MACRO 2	MACRO 3	MACRO 4
MACRO NAME					
EMLATION	EMLATION	*EPSON			
PRN STYL	FONT	*LQ ROMAN			
	PITCH	*10 CPI			
	CONDENSE	*OFF			
	ZERO	-			
	ITALICS	*OFF			
	COLOR	*BLACK			
	AGM MODE	-			
PRN MODE	CPY MODE	*OFF			
	TEXT DIR	*BI DIR			
	GRPH DIR	*UNI DIR			
	SW LOCK	*OFF			
PG LYOUT	LINE SP.	*6 LPI			
	FRM LNTH	*11 INCH			
	PG SKIP	*OFF			
	RT MARGN	*080CLMN			
	LT MARGN	*000CLMN			
	VTOP C	*+000/60			
	S	*+000/60			
INSTALL	RIBBON	*NORMAL			
	A.S.F.	*OFF			
	AUTO CR	-			
	AUTO LF	*OFF			
	SLCT IN	*IGNORE			
	CTZN ESC	*ON			
	REV LF	*OFF			
	PG CNTR C	*040CLMN			
	S	*040CLMN			
	PAPR OUT	*ENABLE			
	TEAR OFF	*ON			
CHR TABL	COUNTRY	*U.S.A			
	CODE PG	-			
	CHR SET	*ITALICS			
SPECIAL	BAUDRATE	*9600			
	PARITY	*NONE			
	DATA BIT	*8 BIT			
	STOP BIT	*1 BIT			
	PROTOCOL	*XON/XOFF			
	OPTN RAM	*BUFFER			

CITIZEN Printers That Run Like Clockwork

Configuration report showing default printer settings.

CITIZEN GSX-140

Default Configuration

		MACRO 1	MACRO 2	MACRO 3	MACRO 4
MACRO NAME					
EMLATION	EMLATION	EPSON	EPSON	EPSON	EPSON
PRN STYL	FONT	LQ ROMAN	DRAFT	DRAFT	LQ SANS
	PITCH	10 CPI	10 CPI	17 CPI	10 CPI
	CONDENSE	OFF	OFF	ON	OFF
	ZERO	-	-	-	-
	ITALICS	OFF	OFF	OFF	OFF
	COLOR	BLACK	BLACK	BLACK	BLACK
	AGM MODE	-	-	-	-
PRN MODE	CPY MODE	OFF	OFF	OFF	OFF
	TEXT DIR	BI DIR	BI DIR	BI DIR	BI DIR
	GRPH DIR	UNI DIR	BI DIR	BI DIR	UNI DIR
	SW LOCK	OFF	OFF	OFF	OFF
PG LYOUT	LINE SP.	6 LPI	6 LPI	6 LPI	6 LPI
	FRM LNTH	11 INCH	11 INCH	11 INCH	11 INCH
	PG SKIP	OFF	OFF	OFF	OFF
	RT MARGN	080CLMN	080CLMN	080CLMN	080CLMN
	LT MARGN	000CLMN	000CLMN	000CLMN	000CLMN
	VTOP C	+000/60	+000/60	-026/60	+000/60
	S	+000/60	+000/60	+000/60	+000/60
INSTALL	RIBBON	NORMAL	NORMAL	NORMAL	COLOR
	A.S.F.	OFF	OFF	OFF	OFF
	AUTO CR	-	-	-	-
	AUTO LF	OFF	OFF	OFF	OFF
	SLCT IN	IGNORE	IGNORE	IGNORE	IGNORE
	CTZN ESC	ON	ON	ON	ON
	REV LF	OFF	OFF	OFF	OFF
	PG CNTR C	040CLMN	040CLMN	040CLMN	040CLMN
	S	040CLMN	040CLMN	040CLMN	040CLMN
	PAPR OUT	ENABLE	ENABLE	ENABLE	ENABLE
	TEAR OFF	ON	ON	ON	ON
CHR TABL	COUNTRY	U.S.A	U.S.A	U.S.A	U.S.A
	CODE PG	-	-	-	-
	CHR SET	ITALICS	ITALICS	ITALICS	ITALICS
SPECIAL	BAUDRATE	9600	9600	9600	9600
	PARITY	NONE	NONE	NONE	NONE
	DATA BIT	8 BIT	8 BIT	8 BIT	8 BIT
	STOP BIT	1 BIT	1 BIT	1 BIT	1 BIT
	PROTOCOL	XON/XOFF	XON/XOFF	XON/XOFF	XON/XOFF
	OPTN RAM	BUFFER	BUFFER	BUFFER	BUFFER

CITIZEN Printers That Run Like Clockwork

Figure 6-3. Printer configuration reports.

Pressing the SAVE key prints the configuration printout. After printing the page, the printer automatically returns to off-line.

Macro Control (MAC CTRL) Jump Point

The ***macro control*** (MAC CTRL) jump point contains two menus: ***load macro*** (LOAD MAC) and ***define macro*** (DEFN MAC). Use the LOAD MAC menu to select a macro (a set of printing characteristics) for the current printer operation, and the DEFN MAC menu to define a macro or change an existing macro. See Chapter 7, "Using Command-Vue Macros," for a complete description of defining and loading macros.

Load Macro (LOAD MAC)

MAC CTRL
LOAD MAC

The ***load macro*** menu is used to replace the current macro. This option can be used to load a previously-defined macro or to activate a macro you have just defined. You can also select ***load macro*** as a "quick menu." See Chapter 5, "Command-Vue Quick Menus" for details.

A macro loaded using the ***load macro*** quick menu becomes the current macro; however, it does not become the default macro. This macro is lost when you turn the printer off.

Selections:

MACRO 1
Loads macro 1.

MACRO 2
Loads macro 2.

MACRO 3
Loads macro 3.

MACRO 4
Loads macro 4.

When the desired macro selection appears, press SAVE to save it in the printer's temporary memory. This macro becomes active when you return the printer to on-line. This macro becomes the default macro which is automatically loaded the next time you turn on the printer.

If there is already data in the print buffer, the printer will display "DATA IN BUFFER" when you press the SAVE key to load a macro. To clear the buffer: In off-line, while holding the SAVE key, press the ON LINE key.

Define Macro (DEFN MAC)

MAC CTRL
DEFN MAC

The ***define macro*** menu is used to define the settings of a macro in the printer's permanent memory so that they are remembered even when the printer is turned off.

Selections:

MACRO 1
Defines macro 1.

MACRO 2
Defines macro 2.

MACRO 3
Defines macro 3.

MACRO 4
Defines macro 4.

Pressing SAVE saves the selected macro and the subsequent menu selections until you leave the setup menu and put the printer back on-line.

Emulation (EMLATION)

The *emulation* (EML
emulation menu (EM
select an emulation th
Epson or IBM.

Emulation (EMLATION)

EMLATION

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Selections:

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The menu settings saved in the printer's permanent memory do not take effect until you load the macro using the LOAD MAC menu.

See Chapter 7, "Using Command-Vue Macros," for a complete description of defining and loading macros.

Emulation (EMLATION) Jump Point

The ***emulation*** (EMLATION) jump point contains the ***emulation*** menu (EMLATION). This menu lets you select an emulation that is resident in the printer: Epson or IBM.

Emulation (EMLATION)

EMLATION

The ***emulation*** menu is used to select either the Epson or IBM emulation. Some menus are subsequently displayed or hidden according to the emulation you select. The result is a streamlined setup menu that pertains only to the emulation you are using.

Selections:

EPSON
This selection makes your printer act like an Epson LQ series printer. All menus *except* those marked as "IBM " in Table 6-1 will appear in the Epson emulation.

IBM
This selection makes your printer act like an IBM Proprinter X24. All menus *except* those marked as "Epson" in Table 6-1 will appear in the IBM emulation.

If there is already data in the print buffer, the printer will display "DATA IN BUFFER" when you press the SAVE key to change a default selection. To clear the buffer: In off-line, while holding the SAVE key, press the ON LINE key.

Print Style (PRN STYL) Jump Point

The ***print style*** (PRN STYL) jump point contains the following menus which let you enhance your printing results:

- ***Font type*** (FONT)
- ***Character pitch*** (PITCH)
- ***Condensed printing*** (CONDENSE)
- ***Slashed zero*** (ZERO) (IBM only)
- ***Italics*** (ITALICS) (Epson only)
- ***Printing color*** (COLOR)
- ***Alternate graphics mode*** (AGM MODE) (IBM only)

Font type (FONT)

PRN STYL
FONT

The ***font type*** menu allows you to select a font type. You can also select ***font type*** as a "quick menu." See Chapter 5, "Command-Vue Quick Menus" for details.

Selections:

LQ ROMAN
Selects letter quality Roman.

LQ SANS
Selects letter quality Sans Serif.

LQ COUR
Selects letter quality Courier.

LQ PREST
Selects letter quality Prestige.

DRAFT
Selects draft printing.

Character pitch (PITCH)

PRN STYL
PITCH

The ***character pitch*** menu allows you to determine the character pitch in characters per inch. You can also select ***character pitch*** as a "quick menu." See Chapter 5, "Command-Vue Quick Menus" for details.

Selections:

10 CPI
Selects 10 characters per inch, sometimes called *pica pitch*.

HS 12 CPI
Selects high-speed 12 characters per inch.

HD 12 CPI
Selects high-density 12 characters per inch.

15 CPI
Selects 15 characters per inch. This selection appears only in the Epson emulation.

17 CPI
Selects 17.1 characters per inch.

20 CPI
Selects 20 characters per inch. This selection appears only in the Epson emulation.

PROPORT
Selects proportional spacing. Each character is given space proportional to its width. Thus, letter i receives less space than w because it is narrower.

If you select or have already selected DRAFT when PROPORT is selected, DRAFT is changed to the currently-selected LQ font.

Condensed printing (CONDENSE)

PRN STYL
CONDENSE

The ***condensed printing*** menu allows you to select between normal or condensed printing.

Selections:

OFF
Selects the character width currently selected by PRN STYLE / PITCH.

ON
Compresses the character width currently selected by PRN STYLE / PITCH by 60% of the normal width. For example, 10 pitch characters would be compressed to 17 pitch. This setting is ignored if the normal width is 15 or higher.

Slashed zero (ZERO) (IBM only)

PRN STYL
ZERO

The ***slashed zero*** menu allows you to select either unslashed or slashed zeros.

Selections:

NO SLASH
Prints zeroes without slashes, like this: 0.

SLASH
Prints zeroes with slashes, like this: Ø.

Italics (ITALICS) (Epson only)

PRN STYL
ITALICS

The ***italics*** menu allows you to select or cancel printing with italic characters. This menu appears only when the "EPSON" selection is selected in the ***emulation*** (EMLATION) menu.

Selections:

OFF
Cancels italics.

ON
Selects italics.

Color On Command (COLOR)

PRN STYL
COLOR

When you have installed the optional color kit, the ***Color On Command*** menu allows you to select between one of seven colors. If the ***install ribbon*** menu is not set to COLOR, this selection is set to "BLACK" and cannot be changed. See Appendix C, "Options," for details about the optional color kit.

You can also select ***Color On Command*** as a "quick menu." See Chapter 5, "Command-Vue Quick Menus" for details.

Selections:

BLACK
Selects black printing.

RED
Selects red printing.

BLUE
Selects blue printing.

VIOLET
Selects violet printing.

YELLOW
Selects yellow printing.

ORANGE
Selects orange printing.

GREEN
Selects green printing.

Alternate graphics mode (AGM MODE) (IBM only)

PRN STYL
AGM MODE

The ***alternate graphics mode*** (AGM MODE) menu allows you to select or cancel the alternate graphics mode (AGM) if "IBM" is selected in the EMLATION menu. This makes your printer compatible with Epson graphics while in the IBM emulation. However, if you need Epson compatibility, you should simply change to the "EPSON" selection in the ***emulation*** (EMLATION) menu.

Selections: OFF
Disables AGM mode.

ON
Enables AGM mode.

Printing Mode (PRN MODE) Jump Point

The ***printing mode*** (PRN MODE) jump point contains the following menus:

- ***Copy mode*** (CPY MODE)
- ***Text printing direction*** (TEXT DIR)
- ***Graphic printing direction*** (GRPH DIR)
- ***Software command lock*** (SW LOCK)

Copy mode (CPY MODE)

PRN MODE
CPY MODE

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Selections: OFF
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ON
Selects o

Text printing direction (TEX

PRN MODE
TEXT DIR

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Selections: BI DIR
Selects b
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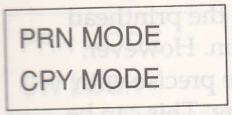
Copy mode (CPY MODE)



The ***copy mode*** menu allows you to select either normal printing or copy mode. With normal printing, the printer can print multiple copies up to three copies, including the original. Selecting copy mode allows you to print four copies including the original.

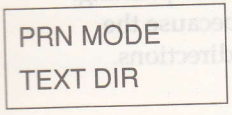
Four-part forms should always be loaded using the bottom-feed paper method with the tractor in the "pull" position. See Chapter 3, "Paper Handling," for details. Using a sans serif font produces the best results on the fourth copy of four-part forms.

Selections:

OFF
Cancels copy mode and resumes normal printing.

ON
Selects copy mode.

Text printing direction (TEXT DIR)



The ***text printing direction*** menu allows you to select either bidirectional or unidirectional text printing.

Selections:

BI DIR
Selects bidirectional text printing. Print speed is increased because the printhead prints in both directions.

UNI DIR
Selects unidirectional text printing. Print speed is reduced because the printhead prints in only one direction. However, vertical alignment is more precise with unidirectional text printing. This can be helpful in certain printing situations where improved vertical alignment is critical.

Graphics printing direction (GRPH DIR)

PRN MODE
GRPH DIR

The ***graphics printing direction*** menu allows you to select either unidirectional or bidirectional printing for graphics.

Selections:

UNI DIR
Selects unidirectional graphics printing. Print speed is reduced because the printhead prints in only one direction. However, vertical alignment is more precise with unidirectional graphics printing. This can be helpful in certain printing situations where improved vertical alignment is critical.

BI DIR
Selects bidirectional graphics printing. Print speed is increased because the printhead prints in both directions.

Software command lock (SW

PRN MODE
SW LOCK

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Selections:

OFF
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ALL STYL
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ITALICS
COLOR
AGM MO

Page Layout (PG LYOUT

The *page layout* (PG
following menus wh
printed page:

- *Line spacing* (LIN
- *Form length* (FRM

Software command lock (SW LOCK)

PRN MODE
SW LOCK

The ***software command lock*** menu allows you to protect the print style settings which are set through the control panel. This prohibits the overriding of control panel settings by commands sent from the computer.

Selections: OFF
Allows software commands to override control panel settings.

FONTS
Protects settings in the PRN STYL/FONT menu set by the Utility program or the control panel from software override.

ALL STYL
Protects all print style settings set by the Utility program or the control panel from software override. The following menu settings are protected, which are all found in the PRN STYL menu:
FONT
PITCH
CONDENSE
ZERO
ITALICS
COLOR
AGM MODE

Page Layout (PG LYOUT) Jump Point

The ***page layout*** (PG LYOUT) jump point contains the following menus which determine the format of the printed page:

- ***Line spacing*** (LINE SP)
- ***Form length*** (FRM LNTH)

- ❑ *Page skip* (PG SKIP) (Epson only)
- ❑ *Right margin* (RT MARGN)
- ❑ *Left margin* (LT MARGN)

Line spacing (LINE SP)

PG LYOUT
LINE SP.

The *line spacing* menu allows you to change the line spacing which determines the number of lines per inch (LPI) that are printed.

Selections:

6 LPI
Selects 6 lines per inch.

8 LPI
Selects 8 lines per inch.

HOST DEF
If the printer has received a software command from the host computer to select a line spacing value, it displays the HOST DEF selection. However, this value cannot be saved in the printer's memory. You can scroll back to "6 LPI" and "8 LPI" by pressing the SELECT key.

Form length (FRM LNTH)

PG LYOUT
FRM LNTH

The *form length* menu allows you to select a page length. The page length you select must be the same as the actual size of the paper you insert or correspond to the actual form length for tear-off positioning. See "Perforation Tear Off" in Chapter 3, "Paper Handling," for more information.

Selections:

11 INCH
Sets the page length to 11 inches.

11.6INCH
Sets the page length to 11.6 inches for use with metric A4 size paper.

12 INCH
Sets the page length to 12 inches.

14 INCH
Sets the page length to 14 inches.

15 INCH
Sets the page length to 15 inches.

6 INCH
Sets the page length to 6 inches.

8 INCH
Sets the page length to 8 inches.

HOST DEF
If the printer has received a software command from the host computer to select a page length, it displays the HOST DEF selection. However, this value cannot be saved in the printer's memory. You can scroll back to other values by pressing the SELECT key.

Page skip (PG SKIP)

PG LYOUT
PG SKIP

The ***page skip*** menu allows you to select a 6-line margin between the last line printed on a page and the first line printed on the next page to avoid printing on the perforation. Page skip is effective only when "EPSON" is selected in the ***emulation*** (EMLATION) menu.

Selections:

OFF
Cancels page skip.

ON
Selects page skip.

Most application programs automatically handle the page skip for you. Set page skip to "OFF" when using these programs.

Right margin (RT MARGN)

PG LYOUT
RT MARGN

The right margin menu allows you to determine the right margin in 10 characters-per-inch pitch by specifying the last column number in the line. For example, a value of 80 would specify a right margin at column 80.

Selections: 80
Sets the right margin at column 80.

##
The value of ## can range from 3 to 80 and is always calculated at 10 characters per inch regardless of the current pitch. However, the value must always be at least 4 columns more than the current left margin.

Press the SELECT key to advance the value; while holding down the PARK LOAD key, press the SELECT key to decrease the value. You can confirm the column by looking at the scale on the clear part of the printer's top cover.

The printer prints text past the current right margin on the next line. Graphics beyond the right margin is not printed and is lost.

Left margin (LT MARGN)

PG LYOUT
LT MARGN

The ***left margin*** menu allows you to determine the left margin in 10 characters-per-inch pitch by specifying the first column number in the line. For example, a value of 10 would specify a left margin at column 10 and printing would start at column 11.

Selections: 0
Sets the left margin at column 0.

##
The value of ## can range from 0 to 75 and is always calculated at 10 characters per inch regardless of the current pitch. However, the value must always be at least 4 columns less than the current right margin.

Press the SELECT key to advance the value; while holding down the PARK LOAD key, press the SELECT key to decrease the value. You can confirm the column by looking at the scale on the clear part of the printer's top cover.

Installation (INSTALL) Jump Point

The ***installation*** (INSTALL) jump point contains the following menus to determine the printer installation condition:

- ***Ribbon*** (RIBBON)
- ***Automatic sheet feeder*** (A.S.F.)
- ***Automatic CR*** (AUTO CR) (IBM only)
- ***Automatic LF*** (AUTO LF)

- ❑ ***Select In signal*** (SLCT IN) (Epson only)
- ❑ ***Citizen ESC code*** (CTZN ESC)
- ❑ ***Reverse line feed*** (REV LF)
- ❑ ***Centering position adjustment*** (PG CNTR)
- ❑ ***Paper out detection*** (PAPR OUT)
- ❑ ***Paper tear off*** (TEAR OFF)

Ribbon (RIBBON)

INSTALL
RIBBON

The ***ribbon*** menu allows you to specify either a normal (black) ribbon or a color ribbon if you have the optional color kit installed.

Selections: NORMAL
Choose this selection when you are using a normal (black) ribbon. The PRN STYL/COLOR menu setting is set to to "BLACK."

COLOR
Choose this selection when you are using a color ribbon. Use the PRN STYL/COLOR menu or software commands to select the color you want to print in.

In your software program, select a printer driver that supports color printing. In many programs, the Epson LQ-2500 driver can print in color.

Because the color ribbon requires more power to drive than the normal black ribbon, "COLOR" must always be selected if the color ribbon is installed, even if you print only in black.

Automatic sheet feeder (A.S.F.)

INSTALL
A.S.F.

The ***automatic sheet feeder*** menu allows you to select the optional automatic sheet feeder when it is installed.

Selections:

OFF
Disables the automatic sheet feeder.

ON
Selects the automatic sheet feeder. Once selected, you do not have to change it to "OFF" when using continuous forms; just change the paper select lever.

Automatic CR (AUTO CR) (IBM only)

INSTALL
AUTO CR

The ***automatic CR*** menu allows you to add a carriage return (CR) each time the printer receives a line feed (LF), vertical tab (VT), or ESC J command from the computer. This will cause the printhead to move to the left margin. This menu appears only when "IBM" is selected in the ***emulation*** (EMLATION) menu.

Selections:

OFF
Cancels automatic carriage return.

ON
Selects automatic carriage return. If you find that your software does not return the printhead to the left edge at the beginning of each line, turn automatic CR on.

Automatic LF (AUTO LF)

INSTALL
AUTO LF

The ***automatic LF*** menu allows you to add a line feed (LF) each time the printer receives a carriage return (CR) from the computer. This will cause the paper to advance.

Selections: OFF
Cancels automatic line feed. If you find that your printouts are double-spaced when you expect single-spacing, turn auto LF off.

ON
Selects automatic line feed. If you find that your software prints on one line without advancing the paper, turn automatic line feed on.

Select In signal (SLCT IN) (Epson only)

INSTALL
SLCT IN

The ***Select In signal*** menu allows you to instruct the printer to ignore or accept the Select In signal received from the computer via the parallel interface pin 36. This menu appears only when "EPSON" is selected in the ***emulation*** (EMLATION) menu.

Selections: IGNORE
The Select In signal is ignored (always LOW) by the printer. Most computers, such as IBM or compatibles, require that the Select In signal be ignored (always LOW).

ACTIVE
The Select In signal is recognized by the printer. This setting should be used when you use DC1/DC3 codes by your computer via the parallel interface.

Citizen ESC code (CTZN ESC)

INSTALL
CTZN ESC

The ***Citizen Escape code*** menu allows you to make the Citizen ESC sequences active or inactive.

Selections: ON
Makes Citizen original escape codes active. If you are using programs written specifically for Citizen printers that use commands available exclusively on Citizen printers, choose this selection. We recommend you always leave this setting on.

The Utility program that comes with your printer can be used only when CTZN ESC is "ON."

OFF
Makes Citizen Escape codes inactive.

Selections: 40
Column 40 is the factory default. The column value can range from 1 to 60. Press the SELECT key to increase the column value; while holding down the PARK LOAD key, press the SELECT key to decrease the column value.

Paper out detection (PAPR OUT)

INSTALL
PAPR OUT

The ***paper out detection*** menu allows you to enable or disable the paper out alarm on the printer. See "Alarms" in Appendix D, "Maintenance," for information on the paper out alarm.

Selections: ENABLE
The printer displays a paper out alarm when it has the printer runs out of paper while printing or when you turn the printer on without paper loaded.

DISABLE
The printer does not detect paper out.

We recommend that you always leave this setting "ENABLE." To use the GSX 140 advanced paper-handling features—such as paper parking and paper tear off—or to use the automatic sheet feeder or manual sheet feeder, the paper out detector must be enabled.

Paper tear off (TEAR OFF)

INSTALL
TEAR OFF

The ***paper tear off*** menu allows you to enable or disable the paper tear off feature.

Selections: ON
The printer automatically advances the paper to the tear off bar when the printer receives an FF code or you press the LF/FF key for 2 or 3 seconds with the printer off-line. When you turn the printer on, the printer automatically advances the paper to the top-of-form.

OFF
The printer acts like a regular printer by simply advancing the paper to the top-of-form (TOF) when the printer receives an FF code or you press the LF/FF key for 2 or 3 seconds. When you turn the printer on, the paper remains at its present position.

Character Table (CHR TABL) Jump Point

The ***character table*** (CHR TABL) jump point contains the following menus to select character sets:

- ***Country code*** (COUNTRY) (Epson only)
- ***Epson character set*** (CHR SET) (Epson only)
- ***Code page character set*** (CODE PG) (IBM only)
- ***IBM character set*** (CHR SET) (IBM only)

Country code (COUNTRY) (Epson only)

CHR TABLE
COUNTRY

The ***country code*** menu allows you to print special characters of various languages as shown in Appendix A, "Character Sets." This menu appears only when you have selected "EPSON" in the ***emulation*** (EMLATION) menu.

Selections:

U.S.A.
Selects the U.S.A. special character set.

FRANCE
Selects the French special character set.

GERMANY
Selects the German special character set.

U.K.
Selects the United Kingdom special character set.

DENMRK 1
Selects the Danish I special character set.

SWEDEN
Selects the Swedish special character set.

ITALY
Selects the Italian special character set.

SPAIN 1
Selects the Spanish special character set.

JAPAN
Selects the Japanese special character set.

NORWAY
Selects the Norwegian special character set.

DENMRK 2
Selects the Danish II special character set.

SPAIN 2
Selects the Spanish II special character set.

LTN. AMER
Selects the Latin America special character set.

LEGAL
Selects the legal special character set.

Epson character set (CHR SET) (Epson only)

CHR TABL
CHR SET

The ***Epson character set*** menu allows you to select either italic or graphics characters in the Epson character set when you have selected "EPSON" in the ***emulation*** (EMLATION) menu. The characters that are affected correspond to ASCII codes 128 to 255. See Appendix A, "Character Sets," for the Epson character set.

Selections:

ITALICS
Prints ASCII codes 128-255 of the Epson character set as italic characters.

GRAPHICS
Prints ASCII codes 128-255 of the Epson character set as graphics characters.

Code page character set (CODE PG) (IBM only)

CHR TABLE
CODE PAGE

The ***code page character set*** menu allows you to make your printer compatible with the IBM code page character sets. This menu appears only when "IBM" is selected in the ***emulation*** (EMLATION) menu. Code pages are explained in your computer's DOS manual.

Selections:

U.S.A.
Selects the U.S.A. code page character set (code page 437).

MULTI
Selects the multilingual code page character set (code page 850).

PORTUGAL
Selects the Portuguese code page character set (code page 860).

CANADA
Selects the Canadian-French code page character set (code page 863).

NORWAY
Selects the Nordic code page character set (code page 865).

SCANDNVA
Selects the Scandinavian code page character set.

IBM character set (CHR SET) (IBM only)

CHR TABL
CHR SET

The ***IBM character set*** menu allows you to select either IBM Character Set 1 or IBM Character Set 2 when you have selected "IBM" in the ***emulation*** (EMLATION) menu. See Appendix A, "Character Sets," for the IBM character sets.

Selections:

SET 1
Selects IBM Character Set 1.

SET 2
Selects IBM Character Set 2.

The "All Characters Chart" cannot be selected in the setup menu. Use the ESC \ or ESC ^ command if you want to use the "All Characters Chart."

Special Setting (SPECIAL SET?) Jump Point

SPECIAL SET? menus—***RS-232C interface*** (RS-232C) and ***optional RAM*** (OPTN RAM)—appear only in the ***define macro*** (DEFN MAC) mode. SPECIAL SET? appears as a jump point following the ***character set*** menu. Therefore, you can reach it by pressing the

JUMP key in any of the ***character table*** jump point menus, or by pressing the MENU key from the ***character set*** menu. At this point, however, it operates differently from other jump points.

If you press the JUMP key or the MENU key, you will go back to the top jump point (PRNT OUT). To access the RS-232C or OPTN RAM menus, you must press the SELECT key to enter the special setting menus. The special settings will become active when you turn the power off and then on again.

There are no jump points within the special setting menus. If you press the JUMP key at any of the RS-232C or OPTN RAM menus, you will go back to the top jump point (PRNT OUT).

RS-232C Interface (RS-232C)

The ***RS-232C interface*** (RS-232C) contains the following menus to specify the serial interface parameters when the optional serial interface board is used:

- ***Baud rate*** (BAUDRATE)
- ***Parity*** (PARITY)
- ***Number of data bits*** (DATA BIT)
- ***Number of stop bits*** (STOP BIT)
- ***Communication protocol*** (PROTOCOL)

These menu settings are common to all macros. When you save the menu settings in a macro, the same settings are stored in all four macros. To make the settings effective, turn the printer off, then turn it on again.

See Appendix B, "Interfaces," for information on the serial interface.

Baud rate (BAUDRATE)

RS-232C
BAUDRATE

The ***baud rate*** menu allows you to select the transmission speed (baud rate) for communication between the printer and computer for the serial interface.

Selections:

9600
Selects 9600 baud.

4800
Selects 4800 baud.

2400
Selects 2400 baud.

1200
Selects 1200 baud.

600
Selects 600 baud.

300
Selects 300 baud.

110
Selects 110 baud.

Parity (PARITY)

RS-232C
PARITY

The ***parity*** menu allows you to select the parity checking for the serial interface.

Selections:

NONE
Selects no parity checking.

ODD
Selects odd parity checking.

EVEN
Selects even parity checking.

Data bits (DATA BIT)

RS-232C
DATA BIT

The ***data bits*** menu allows you to set the data length to either 8 bits or 7 bits for the serial interface.

Selections:

8 BIT
Sets the data length to 8 bits.

7 BIT
Sets the data length to 7 bits.

Stop bits (STOP BIT)

RS-232C
STOP BIT

The ***stop bit bits*** menu allows you to set the stop bit length to either 2 bits or 1 bit for the serial interface.

Selections:

1 BIT
Sets the stop bit length to 1 bit.

2 BIT
Sets the stop bit length to 2 bits.

Communication protocol (PROTOCOL)

RS-232C
PROTOCOL

The ***communication protocol*** menu allows you to select the communication protocol for the serial interface. See Appendix B, "Interfaces", for details on these protocols.

Selections:

XON/XOFF
Selects XON/XOFF protocol.

DTR
Selects DTR (Data Ready) protocol.

Optional RAM (OPTN RAM)

The ***optional RAM*** contains one menu. The settings in this menu are common to all four macros. When you save the menu settings in a macro, the same settings are stored in all four macros. To make the settings effective, turn the printer off, then turn it on again.

Optional RAM (OPTN RAM)

OPTN RAM
BUFFER

The ***optional RAM*** menu allows you to expand the printer's memory from 8K to 40K (8K + 32K) when you have installed the optional expansion memory chip.

If the memory chip is not installed, the menu does not appear.

Selections: BUFFER
Designates the 32 K bytes of memory on the optional expansion memory chip for an input buffer.

DOWNLOAD
Designates the 32 K bytes of memory on the optional expansion memory chip for storing download characters in the IBM emulation. If the Epson emulation is selected, the memory is disabled.

Chapter 7
Using Command-Macros

Command-Vue mac
characteristics. Usin
easy to set up your
applications simply

The printer utility p
printer is an easy w
Refer to Chapter 8,
Reference Disk," fo
load macros directly

In this chapter, you'

- why you use ma
- how to load a ma
- how to define a
- how to reset all

Why Use Macros?

Command-Vue mac
printing characteris
format. The macros

Chapter 7
Using Command-Vue™ Macros

Command-Vue macros pre-define sets of printing characteristics. Using Command-Vue macros makes it easy to set up your printer for four different printing applications simply by loading one of the macros.

The printer utility program that came with your printer is an easy way to define and load macros. Refer to Chapter 8, "Using the Bonus Utility and Reference Disk," for details. You can also define and load macros directly from the control panel.

In this chapter, you'll learn:

- ❑ why you use macros
- ❑ how to load a macro
- ❑ how to define a macro
- ❑ how to reset all macros to the factory defaults

Why Use Macros?

Command-Vue macros are pre-defined sets of printing characteristics such as printing style and format. The macros are stored in the printer's

permanent memory and are not lost when you turn the printer off. Up to four macros can be defined.

When your GSX 140 comes from the factory, the four Command-Vue macros have pre-set settings, called *default* settings. (You can confirm the settings of the four default macros if you print the configuration report.) Some of the settings are different in each macro, such as font and pitch, to accommodate commonly-used print features. You can change any of the settings in a macro in order to adapt it to a particular printing application. The rest of the settings can be left as is, and you don't have to define *every* setting.

When you load one of the four macros, the newly-loaded macro becomes the default macro that is loaded when the printer is turned off and then on again.

A macro loaded using the ***load macro*** quick menu becomes the current macro; however, it does not become the default macro.

You can change the default settings in a macro by making selections in the Command-Vue setup menu through the control panel. This is how macros are "defined." The current setting in each menu selection appears with the first character of the selection underlined. (See Chapter 6, "Command-Vue Setup Menu" for more information about using the setup menu.)

If you make changes to a macro but do not save them as a defined macro, the changes will be lost when you turn the printer off.

You can reset the macros to the factory defaults by following the procedures described in "Resetting Command-Vue Macros to Factory Defaults" later in this chapter.

When you reset ma
macros are reset. Be
defined macros befo
Command-Vue Ma
doing this.

Loading a Comma

Command-Vue ma
MACRO 2, MACR
turn on the printer
MACRO 1—the fa
put in the printer's
printer performs p
information in the

When you first tur
message:

MACRO 1

You can load any
although there are
is printing (see "C
Macro"). Follow t
control panel:

Pressing:	Displ
ON LINE, if the printer is on-line.	OFF
MENU	PRI D
JUMP	MA LO

When you reset macros to factory defaults, all four macros are reset. Be sure to note the settings of your defined macros before resetting them. See "Resetting Command-Vue Macros to Factory Defaults" for help doing this.

Loading a Command-Vue Macro

Command-Vue macros are labeled MACRO 1, MACRO 2, MACRO 3 and MACRO 4. When you turn on the printer the first time, the printer loads MACRO 1—the factory default macro. The macro is put in the printer's temporary memory and the printer performs printing tasks according to the information in the loaded macro.

When you first turn the printer on, you see this message:

MACRO 1

You can load any of the four macros at any time, although there are some restrictions when the printer is printing (see "Clearing the Print Buffer to Load a Macro"). Follow these steps to load a macro using the control panel:

Pressing:	Displays:	And the results:
ON LINE, if the printer is on-line.	OFF LINE	The printer is now off-line.
MENU	PRNT OUT DEMO	Enters the setup menu.
JUMP	MAC CTRL LOAD MAC	Displays the ***macro control*** jump point and the ***load macro*** menu.

(Continued)

Pressing:	Displays:	And the results:
SELECT	LOAD MAC MACRO 1	Enters the ***load macro*** menu with "MACRO 1" as the default selection.
SELECT	LOAD MAC MACRO 2	Changes to the "MACRO 2" selection. (Continuing to press SELECT will scroll through all four macros.)
SAVE	LOADED MACRO 2	Displays for about 2 seconds.
	LOAD MACRO 2	"MACRO 2" is loaded into the printer's temporary memory.
ON LINE	OFF LINE	Exits the setup menu and returns to off-line.
ON LINE	ON LINE	Sets the printer on-line, ready to print.

Clearing the Print Buffer to Load a Macro

If you try to load a macro when the printer is printing or receiving information, the alarm light will come on, this message will appear:

DATA IN
BUFFER

No action is required—after 2 seconds, the display will return to the default setting. If you want to clear the print buffer so that you can load a macro, follow these steps:

Pressing:	Displays:	And the results:
ON LINE	OFF LINE	The printer is now off-line. If the printer is printing, it will stop.
Hold SAVE, and press ON LINE for more than three seconds	BUFFER INITIAL	Displays for 2 seconds.
	OFF LINE	The buffer is now cleared.

Defining a Command-Vue Macro

In order to load a Command-Vue macro with customized printer settings, you must first define the macro, making your changes to it. The procedure is not complicated; however, you should read the section, "Why Use Macros," at the beginning of this chapter. Follow these steps to define a macro using the control panel:

Pressing:	Displays:	And the results:
ON LINE, if the printer is on-line.	OFF LINE	The printer is now off-line.
MENU	PRNT OUT DEMO	Enters the setup menu.
JUMP	MAC CTRL LOAD MAC	Displays the ***macro control*** jump point and the ***load macro*** menu.
MENU	MAC CTRL DEFN MAC	Displays to the ***define macro*** menu.

(Continued)

Pressing:	Displays:	And the results:
SELECT	DEFN MAC MACRO 1	Enters the ***define macro*** menu with the "MACRO 1" selection displayed.
SELECT (2 times)	DEFN MAC MACRO 3	Changes to the "MACRO 3" selection. (Continuing to press SELECT will scroll through all four macros.)
SAVE	LOADED MACRO 3	Displays for 2 seconds.
	DEFN MAC MACRO 3	Selects "MACRO 3". At this point, you can change any of the setup menu settings. In this example, you will change the emulation. (See Chapter 6, "Command-Vue Setup Menu," for more setup menu details.)
JUMP	EMLATION	Advances to the ***emulation*** jump point.
SELECT	EMLATION EPSON	Enters the ***emulation*** jump point. "EPSON"is the current setting. (If "IBM" is displayed, this is because the macro you are defining has already been changed to the IBM emulation. For this example, try changing it to Epson instead of IBM in the next step.)
SELECT	EMLATION IBM	Changes to the "IBM" selection.

(Continued)

Pressing:	Displays:	And the results:
SAVE	EMLATION IBM	Saves the "IBM" selection as the default for this macro. The "I" is underlined. (At this point, you could continue making other changes, before saving and exiting. In this example, you will simply save and exit as described below.)
SAVE	SAVE? MACRO 3	Asks if you want to save your new settings under the Macro 3 definition. (See the note following this table if you do *not* wish to save the settings.)
SAVE (if you want to save)	SAVED MACRO 2	Saves the settings under Macro 3 and displays this message for 2 seconds.
	OFF LINE	
ON LINE	ON LINE	Sets the printer on-line.

If you do not wish to save your changes, pressing ON LINE when the printer asks "SAVE?" instead of pressing the SAVE key will exit without saving. The message "NOT SAVED/MACRO 3" will be displayed for 2 seconds, and then the printer returns to off-line mode.

The newly defined macro (MACRO 3 in the preceding example) is not effective until you make it the default macro. You must load MACRO 3 with the LOAD MAC menu, as described earlier in this chapter.

Resetting Command-Vue Macros to Factory Defaults

When your GSX 140 comes from the factory, all four Command-Vue macros have *default* settings. This makes it easy to change only the settings of a macro necessary to adapt it to a particular printing application. The rest of the settings can be left as is and you don't have to define *every* setting.

You can easily reset the macros to the factory defaults using the control panel. However, when you reset macros, you reset all four macros to the factory defaults. You should note any customization you have made so you can re-define them after resetting the macros. You can do this by printing out a configuration report.

Follow these steps to print the configuration report.

Pressing:	Displays:	And the results:
ON LINE	OFF LINE	Sets the printer off-line.
MENU (3 times)	PRNT OUT CONFIG	Scrolls to the ***configuration printout*** jump point.
SELECT	CONFIG CURRENT	The "CURRENT" selection shows the current settings. Skip the next step to print this report. Otherwise, continue to the next step.
SELECT	CONFIG DEFAULT	The "DEFAULT" selection shows the default settings. Continue to the next step to print this report.
SAVE		Selects the ***configuration printout*** selection and begins printing.

Now you can reset the macros to their factory defaults. Follow these steps:

Pressing:	Displays:	And the results:
ON LINE, if the printer is on-line.	OFF LINE	The printer is now off-line.
Hold SELECT, press ON LINE and PARK LOAD for at least 3 seconds	FACTORY INITIAL	Resets all four macros to factory defaults.
	OFF LINE	The printer returns to off-line.

Now, using the configuration report, you can re-define any of the macros you wish. Refer to the section, "Defining a Command-Vue Macro," for the procedure.

When you reset macros to factory defaults, all four macros are reset. Be sure to note the settings of your defined macros before resetting them. See "Resetting Command-Vue Macros to Factory Defaults" for help doing this.

Chapter 8

Using the U
Reference

Chapter 8
Using the Utility and Reference Disk

The GSX 140 has another powerful feature that is not built in to the printer: bonus software that makes your new printer even easier to use. The diskette included with the GSX 140 contains two programs. One program, called GSXSET, is a utility program that lets you set the printer to work the way you want it to—and without having to learn printer commands. The second program—GSXREF—provides a complete reference to the printer commands.

In this chapter, you'll learn:

- ❑ How to install the software on your computer
- ❑ How to use the GSXSET Utility Program
- ❑ How to use the GSXREF Command Reference Program

Do you have to use the software to use the GSX 140? Certainly not. If you would prefer not to, put the software away and use the GSX 140 as if it were an ordinary printer. The software isn't for everybody—but it does allow you to customize the printer to work better with the programs you use regularly.

Setting Up the Software

There's nothing tricky about setting up the software; it's not copy-protected and there is no installation program that you need to run.

To run the software you need an IBM-compatible computer with at least 256KB of memory. (You must have 192KB available memory when you start the programs; you can find out how much available memory your computer has with the DOS CHKDSK command.) You must be using PC-DOS or MS-DOS, version 2.0 or higher. If your computer does not have a 5¼" floppy disk drive, contact Citizen America (the number is on the back cover of this manual).

If your computer has a hard disk, simply follow these steps to copy the programs to your disk:

1. Make a directory. At the DOS prompt, type **md \gsx**.

2. Move to the new directory. Type **cd \gsx**.

3. Put the Utility and Reference Disk in drive A and copy the files from the diskette by typing **copy a:*.***.

4. Put the diskette back in its sleeve and store it in a safe place.

If your computer does not have a hard disk, you should make a copy of the Utility and Reference Disk. Here's how:

1. Insert the Utility and Reference Disk in drive A. Insert a blank, formatted disk in drive B.

2. At the DOS prompt, type **copy a:*.* b:**.

3. Put the original Utility and Reference Disk in its sleeve and store it in a safe place. Make a label for your new disk and use it as your working copy.

That's it for installation.

Utility Program

Like the printer it supports, the GSXSET utility program has two operating modes: a "quick mode" for making one-time settings, and a "macro definition mode" for making settings you'll use repeatedly.

In quick mode, it can send commands to the printer to load a macro, select a print style, font, pitch, margins, line spacing, and other parameters.

GSXSET also allows you to define a printer macro—a complete set of printer settings. You can save as many groups of settings as you wish, and send them to the printer whenever you wish. Many users define a macro for each different program they use, so that printer settings don't have to be made within the application program.

Running the Program

To start the program, type **GSXSET** at the DOS prompt. You'll see a screen similar to the one in Figure 8-1. Throughout the program you can press **F1** to get help.

The program works like the Command-Vue control panel. If you have used the control panel in Setup Mode or to define a macro as described in Chapters 6 and 7, you'll see the similarities.

In the program, the **down arrow** key on your computer works like the MENU key on the GSX 140 control panel; it moves down through the various

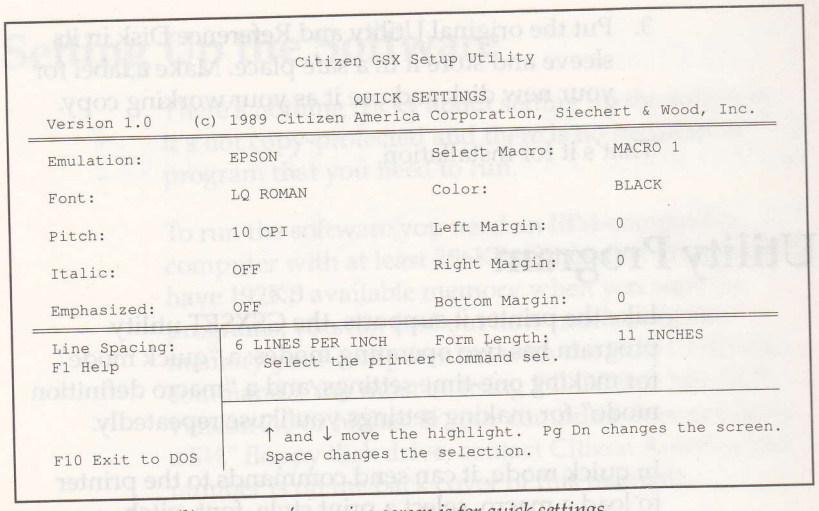

Figure 8-1. The Utility program's opening screen is for quick settings.

menus. (The program also uses the other arrow keys to make it even easier to move to the menu you want.)

The **space bar** is equivalent to the control panel SELECT key. It selects a menu when you have moved to it, and moves through the options within a menu.

The **Enter** key is like the control panel SAVE key. It saves your menu selection in memory.

Making Quick Settings

The opening screen is used for making quick changes to individual printer parameters. This capability is similar to the Quick Mode control panel settings described in Chapter 5.

To make a setting, move the highlight to the item you want to change (move the highlight with the arrow keys on your computer keyboard). Notice that a brief description of the highlighted item appears in the lower right corner of the screen, and that it changes as you move the highlight.

When you have highlighted the item you want to change, press the **space bar**. This will display a menu of options for that setting. The help window in the lower right corner of the screen explains the available options. To step through the available options, you can use the **space bar** (equivalent to the control panel SELECT key) or the **up** and **down arrow** keys. Move the highlight to the selection you want and then press **Enter** (SAVE). This setting is immediately sent to the printer.

If you do not want to change the setting after you have pressed the **space bar** to select the menu, press **Esc** to cancel.

This program only sends commands to the printer for the menu items you change. You don't need to worry if the other settings on the screen are not the ones you want (except for the emulation; see the note below).

You can now make other changes, or leave the program by pressing **F10**. The quick settings you make with the Utility program become the new current settings on the GSX 140. Since they are current settings (not default settings), they will be lost when the printer power is turned off.

When you start the program, the first menu item highlighted is *emulation*. It is important that you set this item to IBM if you are not using the Epson emulation. If you do not, the program may not work correctly, because the commands used in the IBM and Epson emulations are not the same.

The quick setting feature of this program has one side effect that you should be aware of. If you change any settings, all horizontal and vertical tab positions will be reset to their default positions (horizontal tabs every 8 columns, no vertical tabs). Most commercial software does not use printer tab settings (even for tabs you set within a document) so this should not cause a problem in most cases.

Defining and Loading Macros

In addition to making quick settings, the Utility program can define and load macros. This allows you to duplicate all the functions of Setup Mode (described in Chapter 6) and macro loading (Chapter 7)—without leaving your computer. From the quick setting screen (the GSXSET opening screen) press **PgDn** to see the first macro definition screen, which is shown in Figure 8-2.

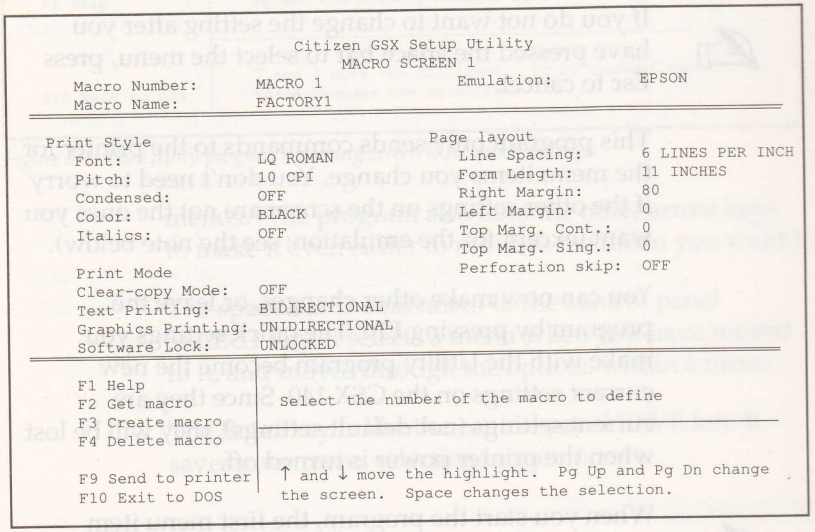

Figure 8-2. The macro definition screen.

The screen is similar in appearance to the quick setting screen, but the menus have been divided into groups that correspond to the Setup Mode jump points. There are three screens of macro setting options. The first two include all the regular Setup Mode menus, and the third screen contains the SPECIAL SET? menus. You can switch among screens by pressing the **PgDn** and **PgUp** keys.

The macro initially displayed is one of the factory default macros; it cannot be changed. To create a new macro, press **F3**. This will create a new macro which is an exact copy of the currently displayed macro,

except that the macro name is changed to NEWMACRO.

The macro name is an additional menu that is not available from the GSX 140 control panel. The macro name is displayed on the Command-Vue display whenever you turn the printer on, load a macro, or define a macro. We recommend that you use a macro name that matches the application for which you will be using the macro (for example, "LOTUS123").

You can edit the macro name just as you would any other menu. Move the highlight to the macro name menu and then press the **space bar** to select it. In the lower left corner (where you usually see a menu of options), the current name will be displayed. You can edit it to change the name. You can use letters (the program changes all letters to capitals), numbers, and spaces in the name. Press **Enter** to save the name when you're done.

Move around the screen the same way as for quick settings: use the **arrow keys** (remember, the **down arrow key** is equivalent to pressing the MENU key on the Command-Vue control panel). When the menu you want to change is highlighted, press the **space bar** (same as SELECT key).

This will display a menu of options in the lower left corner of the screen. Use the **space bar** or **arrow keys** to move the highlight, and then press **Enter** to save the selection. For numeric fields such as margin settings, type in the number you want before pressing **Enter**. (You can also press **Esc** to cancel the selection and return to the menu level, restoring the previous value.)

Changing a setting on the macro setting screens does not change the printer settings immediately; it only affects the macro stored in your computer's memory. After you have made all the settings the way you want to, press **F9** to send the macro to the printer. The entire macro definition, consisting of *all* the displayed settings, will be sent to the printer. Even the settings you do not change are a part of the macro, so it is important to check all the settings.

Each macro you create is automatically stored on your disk so that you can call it up later to send to the printer or for editing. You can store up to 25 macro definitions (if you see the message "Too many macros - Macro not added," you must delete one of the macros before you can create a new one).

To retrieve a stored macro from disk, press **F2** to see a menu of the macros you have defined (listed by macro name). Use the **space bar** or **arrow keys** to select the macro you want to get, and then press **Enter** to carry out the command. Press **Esc** to cancel the command without changing anything.

To delete one of the stored macros from disk, first use the **F2** key to get the macro and display it on the screen. Then simply press **F4**. Note that you cannot delete the factory-defined default macros (MACRO 1–MACRO 4).

The last macro you send to the printer becomes the printer's current default macro. There are several ways to select a different macro, once it has been sent to the printer:

- ❑ You can use the Utility program quick setting screen to select a different macro.
- ❑ You can use Command-Vue Setup Mode to load a macro (see Chapter 6).
- ❑ You can use Quick Mode to load a macro (see Chapter 7 for details).

- ❑ You can use the Utility program macro setting screen to select a different macro from disk and send it to the printer.
- ❑ You can use the Utility program batch feature to select a macro from disk and send it to the printer from the DOS command line or a batch file (see the next section).

Using the Batch Feature

After you have defined one or more macros with the Utility program, you can retrieve them from your disk and send them to the printer—without going through the program menus. At the DOS prompt, simply type **gsxset *name***, where *name* is the macro name you used when you defined the macro. The program will look through your stored macros, select the first one with that name, and send it to the printer. Then the program exits to DOS.

This feature is useful for inclusion in batch files. A batch file to start one of your programs may have commands to load the macro in the printer, change to the appropriate directory for your program, and then start the application program.

Reference Program

The GSXREF command reference program will be of use primarily to programmers and those attempting to use printer features not supported by their commercial software. The command reference describes all the printer commands in the Epson and IBM emulations. The format of each command is shown in ASCII, decimal, and hexadecimal codes, and a description of how each command operates is given. Many word processsing, spreadsheet, and other programs allow you to insert printer codes to

access printer features. Chapter 4 gives some suggestions on using these programs.

To read the reference manual, type **GSXREF** at the DOS prompt. After the program starts, press the **PgDn** key to see the first page of the manual.

You can use the **PgDn** and **PgUp** keys to turn the pages of this "manual on a disk." You can turn immediately to the Table of Contents by pressing the **F3** function key. The Index can be seen by pressing **F4**. When you are viewing the Table of Contents or the Index, you can use the **down arrow** and **up arrow** keys (as well as the **PgDn** and **PgUp** keys) to move the cursor to the topic you're interested in. Then press the **Enter** key to jump directly to the correct page.

You won't really need this description when you run the program; all the key functions are shown on the screen at all times. And you can get help on using the program at any time by pressing the **F1** function key. To leave the program, press **F10**.

Printing the Manual

Sometimes you will want a printed copy of the command descriptions. The GSXREF program has options to print a single topic or the entire manual. Your computer must be connected to your GSX 140 printer to use this feature. To print the command reference, press **F2**. The program will then present options for printing the current topic or the entire manual. If you decide not to print, just press **Esc** to return to the main menu.

This program has one side effect that you should be aware of. If you print any part of the manual, all horizontal and vertical tab positions will be reset to their default positions (horizontal tabs every 8 columns, no vertical tabs). Most commercial software does not use printer tab settings (even for tabs you set

within a document) so this should not cause a problem in most cases.

If you are using a computer with an operating system other than PC-DOS or MS-DOS, or if your computer does not have a 5¼" drive, a printed copy of the reference manual (which explains printer escape command sequences) is available from Citizen America.

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Appendix A
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Appendix A
Character Sets

This appendix shows the character sets, international characters and samples of resident fonts.

ASCII Table and Character Set

This section shows the character sets, along with the corresponding decimal ASCII and hexadecimal code. Codes marked with an asterisk (*) are used for international characters. The characters assigned to these codes change according to the international character set selected.

The characters shown here are standard ASCII, the "international character set" for the U.S.A. See the section "International Character Sets" later in this appendix for the characters that print for each country.

	ASCII Codes		Control	Epson		IBM		
	Decimal	Hex	Keys	Italics	Graphics	Set 1	Set 2	All Characters
	0	00	CTRL @	NUL	NUL	NUL	NUL	Ø
	1	01	CTRL A					☺
	2	02	CTRL B					☻
	3	03	CTRL C				♥	♥
	4	04	CTRL D				♦	♦
	5	05	CTRL E				♣	♣
	6	06	CTRL F				♠	♠
	7	07	CTRL G					•
	8	08	CTRL H	BS	BS	BS	BS	◘
	9	09	CTRL I	HT	HT	HT	HT	○
	10	0A	CTRL J	LF	LF	LF	LF	◙
	11	0B	CTRL K	VT	VT	VT	VT	♂
	12	0C	CTRL L	FF	FF	FF	FF	♀
	13	0D	CTRL M	CR	CR	CR	CR	♪
	14	0E	CTRL N	SO	SO	SO	SO	♫
	15	0F	CTRL O	SI	SI	SI	SI	☼
	16	10	CTRL P					►
	17	11	CTRL Q	DC1	DC1	DC1	DC1	◄
	18	12	CTRL R	DC2	DC2	DC2	DC2	↕
	19	13	CTRL S	DC3	DC3	DC3	DC3	‼
	20	14	CTRL T	DC4	DC4	DC4	DC4	¶
	21	15	CTRL U		§		§	§
	22	16	CTRL V					▬
	23	17	CTRL W					↨
	24	18	CTRL X	CAN	CAN	CAN	CAN	↑
	25	19	CTRL Y					↓
	26	1A	CTRL Z					→
	27	1B	CTRL [	ESC	ESC	ESC	ESC	←
	28	1C						∟
	29	1D						↔
	30	1E						▲
	31	1F						▼
	32	20		Space	Space	Space	Space	Space
	33	21		!	!	!	!	!
	34	22		"	"	"	"	"
*	35	23		#	#	#	#	#
*	36	24		$	$	$	$	$
	37	25		%	%	%	%	%

These characters may be different if you are using an international character set other than the U.S.A. set. See "International Characters" later in this appendix for the characters in each set.

aphics	Set 1	IBM Set 2	All Characters
NUL	NUL	NUL	Ø
			☺
			☻
		♥	♥
		♦	♦
		♣	♣
		♠	♠
			•
BS	BS	BS	◘
HT	HT	HT	○
LF	LF	LF	◙
VT	VT	VT	♂
FF	FF	FF	♀
CR	CR	CR	♪
SO	SO	SO	♫
SI	SI	SI	☼
			►
C1	DC1	DC1	◄
C2	DC2	DC2	↕
C3	DC3	DC3	‼
C4	DC4	DC4	¶
		§	§
			▬
			↨
AN	CAN	CAN	↑
			↓
			→
C	ESC	ESC	←
			L
			↔
			▲
			▼
ace	Space	Space	Space
	!	!	!
	"	"	"
	#	#	#
	$	$	$
	%	%	%

n international character set other than the
is appendix for the characters in each set.

	ASCII Codes		Epson		IBM		
	Decimal	Hex	Italics	Graphics	Set 1	Set 2	All Characters
	38	26	&	&	&	&	&
	39	27	'	'	'	'	'
	40	28	(	(	(	(	(
	41	29	)	)	)	)	)
	42	2A	*	*	*	*	*
	43	2B	+	+	+	+	+
	44	2C	,	,	,	,	,
	45	2D	-	-	-	-	-
	46	2E	.	.	.	.	.
	47	2F	/	/	/	/	/
	48	30	0	0	0	0	0
	49	31	1	1	1	1	1
	50	32	2	2	2	2	2
	51	33	3	3	3	3	3
	52	34	4	4	4	4	4
	53	35	5	5	5	5	5
	54	36	6	6	6	6	6
	55	37	7	7	7	7	7
	56	38	8	8	8	8	8
	57	39	9	9	9	9	9
	58	3A	:	:	:	:	:
	59	3B	;	;	;	;	;
	60	3C	<	<	<	<	<
	61	3D	=	=	=	=	=
	62	3E	>	>	>	>	>
	63	3F	?	?	?	?	?
*	64	40	@	@	@	@	@
	65	41	A	A	A	A	A
	66	42	B	B	B	B	B
	67	43	C	C	C	C	C
	68	44	D	D	D	D	D
	69	45	E	E	E	E	E
	70	46	F	F	F	F	F
	71	47	G	G	G	G	G
	72	48	H	H	H	H	H
	73	49	I	I	I	I	I
	74	4A	J	J	J	J	J
	75	4B	K	K	K	K	K

These characters may be different if you are using an international character set other than the U.S.A. set. See "International Characters" later in this appendix for the characters in each set.

	ASCII Codes		Epson		IBM		
	Decimal	Hex	Italics	Graphics	Set 1	Set 2	All Characters
	76	4C	L	L	L	L	L
	77	4D	M	M	M	M	M
	78	4E	N	N	N	N	N
	79	4F	O	O	O	O	O
	80	50	P	P	P	P	P
	81	51	Q	Q	Q	Q	Q
	82	52	R	R	R	R	R
	83	53	S	S	S	S	S
	84	54	T	T	T	T	T
	85	55	U	U	U	U	U
	86	56	V	V	V	V	V
	87	57	W	W	W	W	W
	88	58	X	X	X	X	X
	89	59	Y	Y	Y	Y	Y
	90	5A	Z	Z	Z	Z	Z
*	91	5B	[	[	[	[	[
*	92	5C	\	\	\	\	\
*	93	5D	]	]	]	]	]
*	94	5E	^	^	^	^	^
	95	5F	_	_	_	_	_
*	96	60	`	`	`	`	`
	97	61	a	a	a	a	a
	98	62	b	b	b	b	b
	99	63	c	c	c	c	c
	100	64	d	d	d	d	d
	101	65	e	e	e	e	e
	102	66	f	f	f	f	f
	103	67	g	g	g	g	g
	104	68	h	h	h	h	h
	105	69	i	i	i	i	i
	106	6A	j	j	j	j	j
	107	6B	k	k	k	k	k
	108	6C	l	l	l	l	l
	109	6D	m	m	m	m	m
	110	6E	n	n	n	n	n
	111	6F	o	o	o	o	o
	112	70	p	p	p	p	p
	113	71	q	q	q	q	q

These characters may be different if you are using an international character set other than the U.S.A. set. See "International Characters" later in this appendix for the characters in each set.

ASCII Codes		Eps
Decimal	Hex	Italics
114	72	r
115	73	s
116	74	t
117	75	u
118	76	v
119	77	w
120	78	x
121	79	y
122	7A	z
* 123	7B	{
* 124	7C	|
* 125	7D	}
* 126	7E	~
127	7F	DEL
128	80	
129	81	
130	82	
131	83	
132	84	
133	85	
134	86	
135	87	
136	88	BS
137	89	HT
138	8A	LF
139	8B	VT
140	8C	FF
141	8D	CR
142	8E	SO
143	8F	SI
144	90	
145	91	DC
146	92	DC
147	93	DC
148	94	DC
149	95	
150	96	
151	97	

These characters may be different if you
U.S.A. set. See "International Characters

	ASCII Codes		Epson		IBM		
	Decimal	Hex	Italics	Graphics	Set 1	Set 2	All Characters
	114	72	r	r	r	r	r
	115	73	s	s	s	s	s
	116	74	t	t	t	t	t
	117	75	u	u	u	u	u
	118	76	v	v	v	v	v
	119	77	w	w	w	w	w
	120	78	x	x	x	x	x
	121	79	y	y	y	y	y
	122	7A	z	z	z	z	z
*	123	7B	{	{	{	{	{
*	124	7C	¦	¦	¦	¦	¦
*	125	7D	}	}	}	}	}
*	126	7E	~	~	~	~	~
	127	7F	DEL	DEL			⌂
	128	80		Ç	NUL	Ç	Ç
	129	81		ü		ü	ü
	130	82		é		é	é
	131	83		â		â	â
	132	84		ä		ä	ä
	133	85		à		à	à
	134	86		å		å	å
	135	87		ç		ç	ç
	136	88	BS	ê	BS	ê	ê
	137	89	HT	ë	HT	ë	ë
	138	8A	LF	è	LF	è	è
	139	8B	VT	ï	VT	ï	ï
	140	8C	FF	î	FF	î	î
	141	8D	CR	ì	CR	ì	ì
	142	8E	SO	Ä	SO	Ä	Ä
	143	8F	SI	Å	SI	Å	Å
	144	90		É		É	É
	145	91	DC1	æ	DC1	æ	æ
	146	92	DC2	Æ	DC2	Æ	Æ
	147	93	DC3	ô	DC3	ô	ô
	148	94	DC4	ö	DC4	ö	ö
	149	95		ò		ò	ò
	150	96		û		û	û
	151	97		ù		ù	ù

These characters may be different if you are using an international character set other than the U.S.A. set. See "International Characters" later in this appendix for the characters in each set.

ASCII Codes		Epson		IBM		
Decimal	Hex	Italics	Graphics	Set 1	Set 2	All Characters
152	98	CAN	ÿ	CAN	ÿ	ÿ
153	99		Ö		Ö	Ö
154	9A		Ü		Ü	Ü
155	9B	ESC	¢	ESC	¢	¢
156	9C		£		£	£
157	9D		¥		¥	¥
158	9E		₧		₧	₧
159	9F		ƒ		ƒ	ƒ
160	A0	Space	á	á	á	á
161	A1	!	í	í	í	í
162	A2	"	ó	ó	ó	ó
163	A3	#	ú	ú	ú	ú
164	A4	$	ñ	ñ	ñ	ñ
165	A5	%	Ñ	Ñ	Ñ	Ñ
166	A6	&	ª	ª	ª	ª
167	A7	'	º	º	º	º
168	A8	(	¿	¿	¿	¿
169	A9	)	⌐	⌐	⌐	⌐
170	AA	*	¬	¬	¬	¬
171	AB	+	½	½	½	½
172	AC	,	¼	¼	¼	¼
173	AD	-	¡	¡	¡	¡
174	AE	.	«	«	«	«
175	AF	/	»	»	»	»
176	B0	0	▒	▒	▒	▒
177	B1	1	▒	▒	▒	▒
178	B2	2	▒	▒	▒	▒
179	B3	3	─	─	─	─
180	B4	4	┤	┤	┤	┤
181	B5	5	╡	╡	╡	╡
182	B6	6	╢	╢	╢	╢
183	B7	7	╖	╖	╖	╖
184	B8	8	╕	╕	╕	╕
185	B9	9	╣	╣	╣	╣
186	BA	:	║	║	║	║
187	BB	;	╗	╗	╗	╗
188	BC	<	╝	╝	╝	╝
189	BD	=	╜	╜	╜	╜
190	BE	>	╛	╛	╛	╛

ASCII Codes		
Decimal	Hex	Italics
191	BF	?
192	C0	@
193	C1	A
194	C2	B
195	C3	C
196	C4	D
197	C5	E
198	C6	F
199	C7	G
200	C8	H
201	C9	I
202	CA	J
203	CB	K
204	CC	L
205	CD	M
206	CE	N
207	CF	O
208	D0	P
209	D1	Q
210	D2	R
211	D3	S
212	D4	T
213	D5	U
214	D6	V
215	D7	W
216	D8	X
217	D9	Y
218	DA	Z
219	DB	[
220	DC	\
221	DD	]
222	DE	^
223	DF	_
224	E0	`
225	E1	a
226	E2	b
227	E3	c
228	E4	d
229	E5	e

ASCII Codes		Epson		IBM		
Decimal	Hex	Italics	Graphics	Set 1	Set 2	All Characters
191	BF	?	┐	┐	┐	┐
192	C0	@	└	└	└	└
193	C1	A	┴	┴	┴	┴
194	C2	B	┬	┬	┬	┬
195	C3	C	├	├	├	├
196	C4	D	─	─	─	─
197	C5	E	┼	┼	┼	┼
198	C6	F	╞	╞	╞	╞
199	C7	G	╟	╟	╟	╟
200	C8	H	╚	╚	╚	╚
201	C9	I	╔	╔	╔	╔
202	CA	J	╩	╩	╩	╩
203	CB	K	╦	╦	╦	╦
204	CC	L	╠	╠	╠	╠
205	CD	M	═	═	═	═
206	CE	N	╬	╬	╬	╬
207	CF	O	╧	╧	╧	╧
208	D0	P	╨	╨	╨	╨
209	D1	Q	╤	╤	╤	╤
210	D2	R	╥	╥	╥	╥
211	D3	S	╙	╙	╙	╙
212	D4	T	╘	╘	╘	╘
213	D5	U	╒	╒	╒	╒
214	D6	V	╓	╓	╓	╓
215	D7	W	╫	╫	╫	╫
216	D8	X	╪	╪	╪	╪
217	D9	Y	┘	┘	┘	┘
218	DA	Z	┌	┌	┌	┌
219	DB	[	■	■	■	■
220	DC	\	▄	▄	▄	▄
221	DD	]	▌	▌	▌	▌
222	DE	^	▐	▐	▐	▐
223	DF	_	▀	▀	▀	▀
224	E0	`	α	α	α	α
225	E1	a	ß	ß	ß	ß
226	E2	b	Γ	Γ	Γ	Γ
227	E3	c	π	π	π	π
228	E4	d	Σ	Σ	Σ	Σ
229	E5	e	σ	σ	σ	σ

ASCII Codes		Epson		IBM		
Decimal	Hex	Italics	Graphics	Set 1	Set 2	All Characters
230	E6	*f*	μ	μ	μ	μ
231	E7	*g*	τ	τ	τ	τ
232	E8	*h*	Φ	Φ	Φ	Φ
233	E9	*i*	θ	θ	θ	θ
234	EA	*j*	Ω	Ω	Ω	Ω
235	EB	*k*	δ	δ	δ	δ
236	EC	*l*	∞	∞	∞	∞
237	ED	*m*	ø	ø	ø	ø
238	EE	*n*	∈	∈	∈	∈
239	EF	*o*	∩	∩	∩	∩
240	F0	*p*	≡	≡	≡	≡
241	F1	*q*	±	±	±	±
242	F2	*r*	≥	≥	≥	≥
243	F3	*s*	≤	≤	≤	≤
244	F4	*t*	⌠	⌠	⌠	⌠
245	F5	*u*	⌡	⌡	⌡	⌡
246	F6	*v*	÷	÷	÷	÷
247	F7	*w*	≈	≈	≈	≈
248	F8	*x*	°	°	°	°
249	F9	*y*	•	•	•	•
250	FA	*z*	·	·	·	·
251	FB	*{*	√	√	√	√
252	FC	*¦*	n	n	n	n
253	FD	*}*	2	2	2	2
254	FE	*~*	■	■	■	■
255	FF	Space	Space	Space	Space	Space

International Characters

The international characters can be changed selecting an international character set in several different ways:

- ❑ using the utility disk that came with the printer
- ❑ through commercial software
- ❑ sending the proper command as shown in the Reference program

❑ through the control panel Setup Menu

These are the characters that change, listed by country and decimal ASCII code.

Country	35	36	64	91	92	93	94	96	123	124	125	126
U.S.A.	#	$	@	[	\	]	^	‘	{	|	}	~
France	#	$	à	°	ç	§	^	‘	é	ù	è	¨
Germany	#	$	§	Ä	Ö	Ü	^	‘	ä	ö	ü	β
England	£	$	@	[	\	]	^	‘	{	|	}	~
Denmark	#	$	@	Æ	Ø	Å	^	‘	æ	ø	å	~
Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Italy	#	$	@	°	\	é	^	ù	à	ò	è	ì
Spain	Pt	$	@	¡	Ñ	¿	^	‘	¨	ñ	}	~
Japan	#	$	@	[	¥	]	^	‘	{	|	}	~
Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Denmark II	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Spain II	#	$	á	¡	Ñ	¿	é	‘	í	ñ	ó	ú
Latin America	#	$	á	¡	Ñ	¿	é	ü	í	ñ	ó	ú
Legal	#	$	§	°	’	"	¶	‘	©	®	†	™

Resident Fonts

Resident fonts are the fonts that are built into the printer. There are five resident fonts in this printer, which are available all the time. The resident fonts are:

Letter Quality Roman
Letter Quality Sans Serif
Letter Quality Courier
Letter Quality Prestige
Draft

Samples of each font can be found on the following page.

Letter Quality Roman

```
The Arctic National Wildlife
Refuge, Alaska, is a fragile
magnificence that lies at the
```

Letter Quality Sans Serif

```
The Arctic National Wildlife
Refuge, Alaska, is a fragile
magnificence that lies at the
```

Letter Quality Courier

```
The Arctic National Wildlife
Refuge, Alaska, is a fragile
magnificence that lies at the
```

Letter Quality Prestige

```
The Arctic National Wildlife
Refuge, Alaska, is a fragile
magnificence that lies at the
```

Draft

```
The Arctic National Wildlife
Refuge, Alaska, is a fragile
magnificence that lies at the
```


Appendix B Interfaces

This appendix de
standard parallel
interface. (See Ap
about installing t

The parallel and
connected to a co
you want to use
work on a "first
interface that re
interface and ren
off and on again.
other one is not
active interface i

Parallel Interface

The following ta
parallel interfac

Pin No.	Return Pin No.	Signal	T
1	19	STROBE	C

NOTE: A line above a signal name indi

Appendix B
Interfaces

This appendix describes the specifications of the standard parallel interface and optional serial interface. (See Appendix C, "Options," for details about installing the serial interface.)

The parallel and serial interface can each be connected to a computer if you have more than one you want to use with the GSX 140. The interfaces work on a "first come, first served" basis; the interface that receives data first becomes the active interface and remains active until you turn the printer off and on again. When an interface is active, the other one is not used, even if data is sent while the active interface is not receiving data.

Parallel Interface

The following table shows the pin functions for the parallel interface.

Pin No.	Return Pin No.	Signal	Transmitter	Functions
1	19	$\overline{\text{STROBE}}$	CPU	Strobe pulse for data entry. Pulse width should be more than 0.5µs at the receiving terminal. This signal is "HIGH" in the normal condition, and data are read in after this signal has turned to "LOW."

NOTE: A line above a signal name indicates that the signal is active when "LOW."

Pin No.	Return Pin No.	Signal	Transmitter	Functions
2 3 4 5 6 7 8 9	20 21 22 23 24 25 26 27	DATA 1 DATA 2 DATA 3 DATA 4 DATA 5 DATA 6 DATA 7 DATA 8	CPU CPU CPU CPU CPU CPU CPU CPU	Each signal represents the information for one bit of parallel data. "HIGH" shows that data is logical "1" and "LOW" shows that data is logical "0."
10	28	$\overline{\text{ACKNLG}}$	PRINTER	"LOW" indicates that the printer has received data and is ready to accept next data. Pulse width is about 12µs.
11	29	BUSY	PRINTER	"HIGH" indicates that the printer is not ready to receive data, while "LOW" indicates that the printer is ready to receive data. This signal turns to "HIGH" in the following cases: 1 During data entry 2 During printing 3 Off-line condition 4 Error condition 5 Paper feed
12	30	PE	PRINTER	"HIGH" indicates that the printer is out of paper.
13	—	SLCT	PRINTER	"HIGH" indicates that the printer is selected.
14	—	$\overline{\text{AUTO}}$ $\overline{\text{FEED XT}}$	CPU	When this signal turns to "LOW," paper is automatically fed one line after printing.
15	—	NC		Not used.
16	—	0V	PRINTER	Logic ground 0V level.
17	—	CHASSIS GND	PRINTER	GND level of printer chassis.
18	—	+5V	PRINTER	+5V direct output.

NOTE: A line above a signal name indicates that the signal is active when "LOW."

Pin No.	Return Pin No.	Signal	Trans
19 30	— —	GND GND	
31	—	$\overline{\text{INT}}$	CPU
32	—	ERROR	PRIN
33	—	GND	—
34	—	NC	—
35	—	—	—
36	—	$\overline{\text{SLCT IN}}$	CPU

NOTE: A line above a signal name indicates

Serial Interface

The serial interface
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Menu," for details.

The RS232-C serial
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information to the

Pin No.	Return Pin No.	Signal	Transmitter	Functions
19 30	— —	GND GND		Signal GND level for twisted-pair return.
31	—	$\overline{\text{INT}}$	CPU	When this signal turns to "LOW," the printer controller is reset to the initial condition and the print buffer is cleared. The pulse width should be more than 50µs at the receiving terminal.
32	—	ERROR	PRINTER	"LOW" indicates that the printer is in: 1 Paper out 2 Off-line condition 3 Printer error
33	—	GND	—	Same as specified in pin No. 19-30.
34	—	NC	—	Not used.
35	—	—	—	Pulled up to +5V through 3.3kΩ resistance.
36	—	$\overline{\text{SLCT IN}}$	CPU	"LOW" indicates that the printer is selected.

NOTE: A line above a signal name indicates that the signal is active when "LOW."

Serial Interface

The serial interface is configured with the setup menu. Refer to Chapter 6, "Command-Vue Setup Menu," for details.

The RS232-C serial interface offers two communications protocols: Data Ready, or DTR, and X-ON/X-OFF. Data Ready is a hardware protocol and X-ON/X-OFF is a software protocol. These protocols help to insure that your computer doesn't send information to the printer faster than it can print.

To select a protocol, you need to look at the manuals for the programs that you will be using with your GSX 140. They will tell you which serial protocol they use. Select the same protocol for your printer.

The following tables show the pin functions for the two communications protocols.

Data Ready (DTR) Protocol

The Data Ready protocol works by controlling the signals on pins of the interface. The pin functions with the Data Ready protocol are shown below. The DTR pin controls the flow of information to the printer.

Pin No.	Signal	Direction	Functions
1	GND	—	Printer's chassis ground.
3	RD	IN	Carries data to the printer.
4	RTS	OUT	HIGH when the printer is on-line.
7	GND	—	Signal ground.
20	DTR	OUT	HIGH when the printer is on-line.

When the buffer capacity reduces to below 256 bytes, the printer changes the DTR signal to LOW. When the buffer capacity increases to 512 bytes or more, the signal is again changed to HIGH. Your computer must stop sending information within 256 characters after the printer makes the DTR signal LOW, or information that overfills the buffer will be lost.

When the printer goes on-line, the printer changes the DTR signal from LOW to HIGH to signal to the computer that it is ready to receive information.

X-ON/X-OFF Protocol

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(11 hex) to the co
information. (X-O
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receives an X-OFF
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The printer will s
on-line to get thi
code to stop the
if there is an erro
X-ON/X-OFF pi

Pin No.	Signal	Direction
1	GND	—
2	TD	OUT
3	RD	IN
4	RTS	OUT
7	GND	—
20	DTR	OUT

X-ON/X-OFF Protocol Pin Functions

This is the simplest of the software protocols. When the printer's buffer fills up, it sends the ASCII code X-OFF (13 hex) to the computer to tell it to stop sending information. When there is again some room in the buffer, the printer sends the ASCII code X-ON (11 hex) to the computer to tell it to resume sending information. (X-ON is also known as DC1; X-OFF is synonymous with DC3.) If the computer doesn't stop sending information within 256 characters after it receives an X-OFF code, the information that overfills the buffer will be lost.

The printer will send an X-ON code when it goes on-line to get things started. It will send an X-OFF code to stop the computer from sending information if there is an error, such as running out of paper. The X-ON/X-OFF pin functions are shown below.

Pin No.	Signal	Direction	Functions
1	GND	—	Printer's chassis ground.
2	TD	OUT	Carries data from the printer.
3	RD	IN	Carries data to the printer.
4	RTS	OUT	HIGH when the printer is on-line.
7	GND	—	Signal ground.
20	DTR	OUT	HIGH when the printer is on-line.

Signal Levels

The serial interface uses standard RS232-C signal levels as shown below.

Signal level	Input	Output
MARK (1)	-27V to -5V	-12V
SPACE (0)	+5V to +27V	+12V

Appendix C
Options

Appendix C
Options

This appendix describes the options that are available for your GSX 140 printer. The options include:

- ❑ automatic sheet feeder
- ❑ manual sheet feeder
- ❑ color kit and color ribbon cassette
- ❑ serial interface (U.S. connector)
- ❑ printer stand
- ❑ memory expansion (RAM) chip

The options are shown in Figure C-1. Ask your dealer if you want them.

This appendix explains assembly (if necessary), installation, setup menu selection and any other information which will help you use these options effectively.

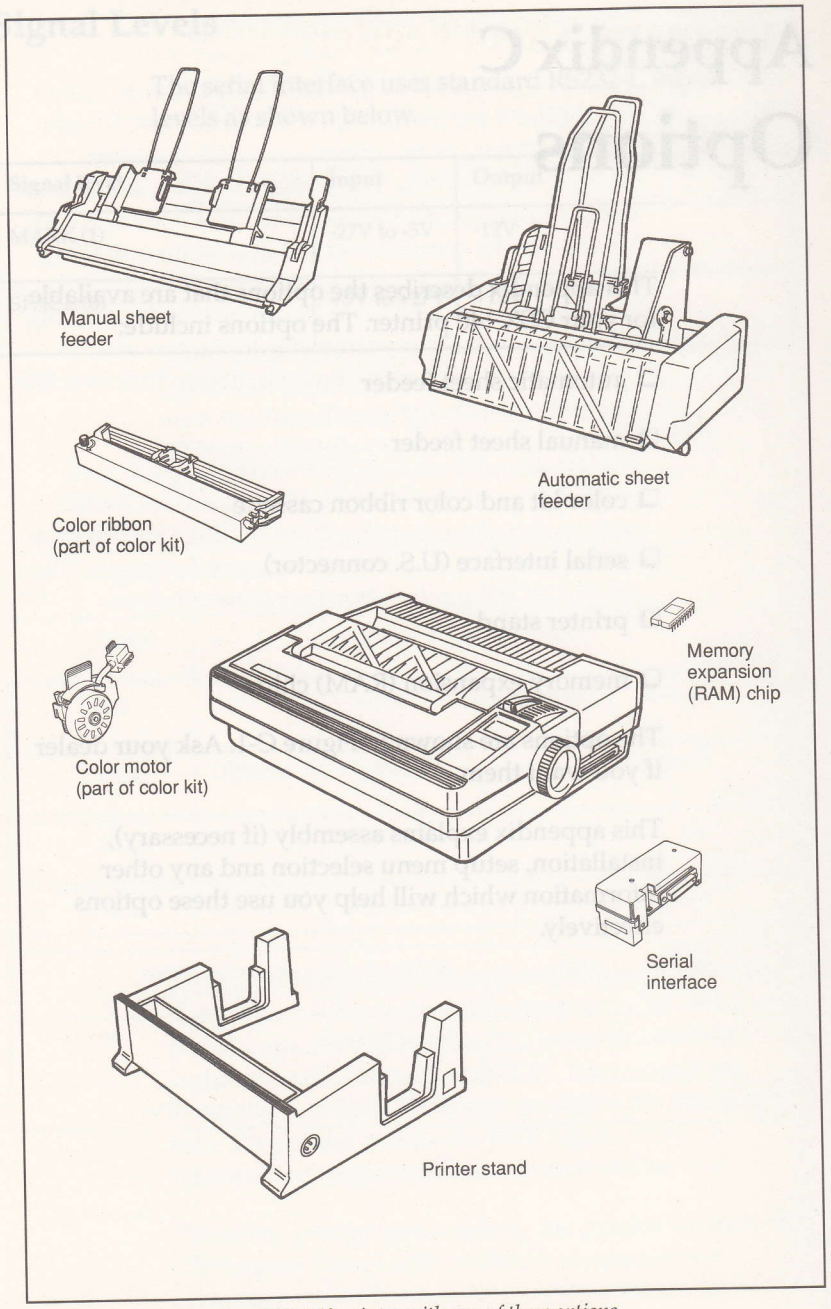

Figure C-1. Enhance your GSX-140 printer with any of these options.

Automatic Sheet Fe

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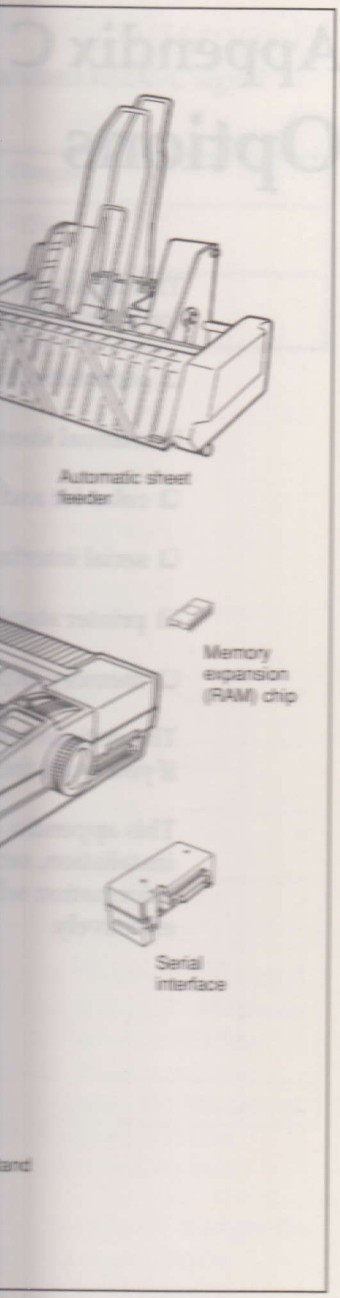

these options.

Automatic Sheet Feeder

The automatic sheet feeder, or A.S.F., permits continuous printing on cut sheets. The automatic sheet feeder is unique in that:

- ❑ You can install the automatic sheet feeder without removing the tractor unit or paper if the tractor unit is placed in the push tractor position.
- ❑ Once you have installed the automatic sheet feeder, you can change from cut sheets to continuous forms without removing the sheet feeder.

Assembling the Automatic Sheet Feeder

You should remove the styrofoam packing material and assemble the automatic sheet feeder before installing it on the GSX 140. The automatic sheet feeder comes with three wire paper supports which are all attached to the main unit (Figure C-2). You'll also find a black wire paper guide which is attached to the printer's top cover. See Figure C-3 and the next section for instructions on how to attach this guide.

The sheet feeder accessories perform these functions:

- ❑ The bin wire supports the paper stack that will be fed into the printer.
- ❑ The front stacker wire supports the printed sheets.
- ❑ The front short wire separates the feed paper from output paper when continuous forms are used with the automatic sheet feeder still installed.

Follow these steps to attach the accessories to the automatic sheet feeder:

1. Attach the bin wire by inserting its ends into the holes on the bin support (near the back of the sheet feeder unit). See Figure C-2.

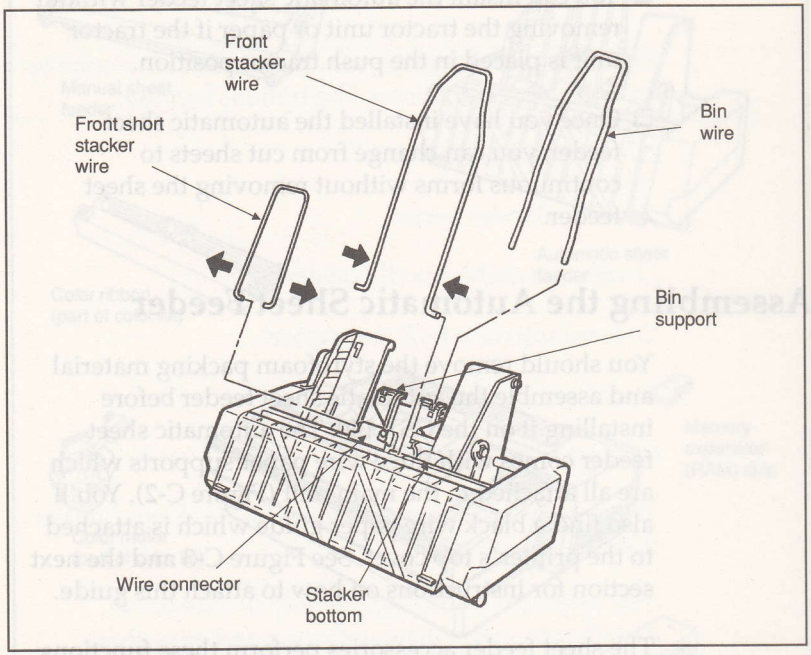

Figure C-2. Assembling the automatic sheet feeder.

2. Attach the front stacker wire by squeezing it inwards and inserting its ends into the slots on the stacker bottom (near the middle of the sheet feeder unit). See Figure C-2.

3. Attach the front short wire by expanding it outwards and inserting its ends into the holes on the wire connector (near the front of the sheet feeder unit). See Figure C-2.

Installing the Automatic Sheet Feeder

With the automatic sheet feeder assembled, follow these steps to install it on your GSX 140:

1. Open the clear part of the printer's top cover.

2. Holding each end of the sheet feeder unit over the printer, set the notches on the bottom of both ends onto the pins indicated by triangles on the printer. Lower the sheet feeder in position as shown in Figure C-3. Make sure it fits securely.

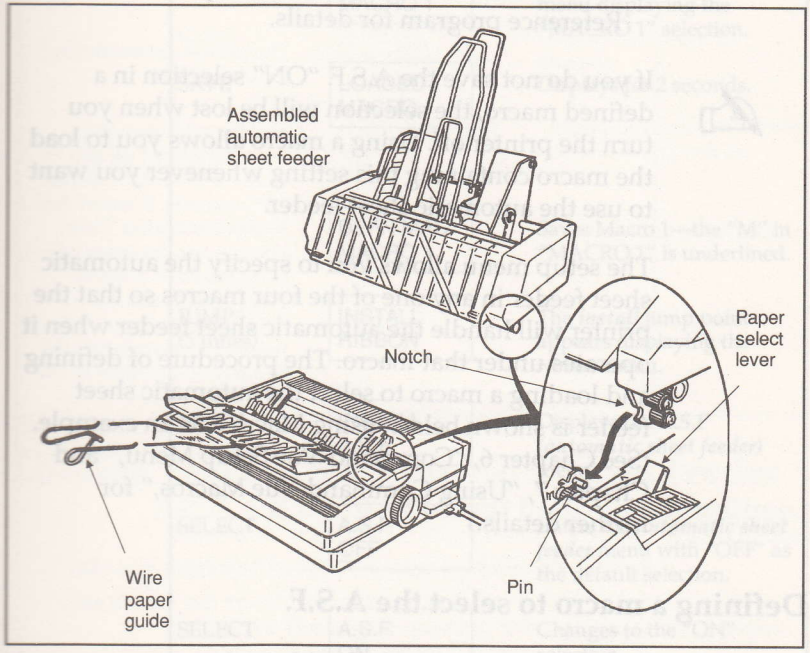

Figure C-3. Installing the automatic sheet feeder.

3. Install the wire paper guide in the clear part of the printer's top cover. See Figures C-3 and C-4.

4. Close the clear part of the printer's top cover by resting it on the front cover of the sheet feeder.

5. Set the paper select lever to the rear position.

Selecting the A.S.F. With the Setup Menu

When you use the automatic sheet feeder, you need to select it by doing one of the following:

- ❑ Use the Utility program to define and load a macro turning the A.S.F. "ON."
- ❑ Use the control panel to define and load a macro turning the A.S.F. "ON." This procedure is described below.
- ❑ Send the ESC EM command to the printer. See the Reference program for details.

If you do not save the A.S.F. "ON" selection in a defined macro, the selection will be lost when you turn the printer off. Using a macro allows you to load the macro containing this setting whenever you want to use the automatic sheet feeder.

The setup menu allows you to specify the automatic sheet feeder in any one of the four macros so that the printer will handle the automatic sheet feeder when it operates under that macro. The procedure of defining and loading a macro to select the automatic sheet feeder is shown below, using Macro 1 as an example. (See Chapter 6, "Command-Vue Setup Menu," and Chapter 7, "Using Command-Vue Macros," for further details.)

Defining a macro to select the A.S.F.

Follow these steps to define Macro 1:

Pressing:	Displays:	And the results:
ON LINE, if the printer is on-line.	OFF LINE	The printer is now off-line.

(Continued)

Pressing:	Displays:	And the results:
MENU	PRNT OUT DEMO	Enters the setup menu.
JUMP	MAC CTRL LOAD MAC	Displays the ***macro control*** jump point and the ***load macro*** menu.
MENU	MAC CTRL DEFN MAC	Displays the ***define macro*** menu.
SELECT	DEFN MAC MACRO 1	Enters the ***define macro*** menu displaying the "MACRO 1" selection.
SAVE	LOADED MACRO 1	Displays for 2 seconds.
	DEFN MAC MACRO 1	Saves Macro 1—the "M" in "MACRO 1" is underlined.
JUMP (5 times)	INSTALL RIBBON	The ***install*** jump point appears displaying the ***ribbon*** menu.
MENU	INSTALL A.S.F.	Displays the ***A.S.F (automatic sheet feeder)*** menu.
SELECT	A.S.F. OFF	Enters the ***automatic sheet feeder*** menu with "OFF" as the default selection.
SELECT	A.S.F. ON	Changes to the "ON" selection.
SAVE	A.S.F. ON	Saves the "ON" selection.

(Continued)

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define Macro 1:

	And the results:
	The printer is now off-line.

(Continued)

Pressing:	Displays:	And the results:
SAVE	SAVE ? MACRO 1	You are asked to confirm whether you want to save the changes you made to MACRO 1. In this example, you do want to save them; continue to the next step.
SAVE	SAVED MACRO 1	This message appears for 2 seconds confirming that the changes were saved. Macro 1 is now defined with the automatic sheet feeder selected.
	OFF LINE	The printer automatically returns off-line.
ON LINE	ON LINE	Sets the printer on-line. Turn the printer off and on again. If MACRO 1 flashes for 2 seconds, it means that Macro 1 is loaded. Then, you can use the automatic sheet feeder. If a macro other than Macro 1 is displayed, you need to load macro 1 by completing the procedure described in the next section.

Loading the defined macro to select the A.S.F.

Follow these steps to load Macro 1 (which has the automatic sheet feeder selected from the previous section):

Pressing:	Displays:	And the results:
ON LINE, if the printer is on-line.	OFF LINE	The printer is now off-line.

(Continued)

Pressing:	Displays:	And the results:
MENU	PRNT OUT DEMO	Enters the setup menu.
JUMP	MAC CTRL LOAD MAC	Displays the ***macro control*** jump point and the ***load macro*** menu.
SELECT	LOAD MAC MACRO 1	Enters the ***load macro*** menu. The "MACRO 1" selection will appear if you have not previously loaded a different macro.
SAVE	LOADED MACRO 1	Displays for about 2 seconds.
	LOAD MACRO 1	"MACRO 1" with the newly defined setting will be loaded.
ON LINE	OFF LINE	Exits the setup menu and returns to off-line.
ON LINE	ON LINE	Sets the printer on-line, ready to print.

Loading Paper in the Automatic Sheet Feeder

Here's how to load a stack of single-sheet paper in the automatic sheet feeder (see Figure C-4).

1. Move the paper loading lever forward (the paper release position). This will bring the pressure plates back into position with a click.
2. Adjust the left and right sides of the paper bin to the size of the paper you are going to use.
3. The paper must be well fanned before stacking into the bin. This keeps the paper from "sticking" so that only one sheet is fed at a time.

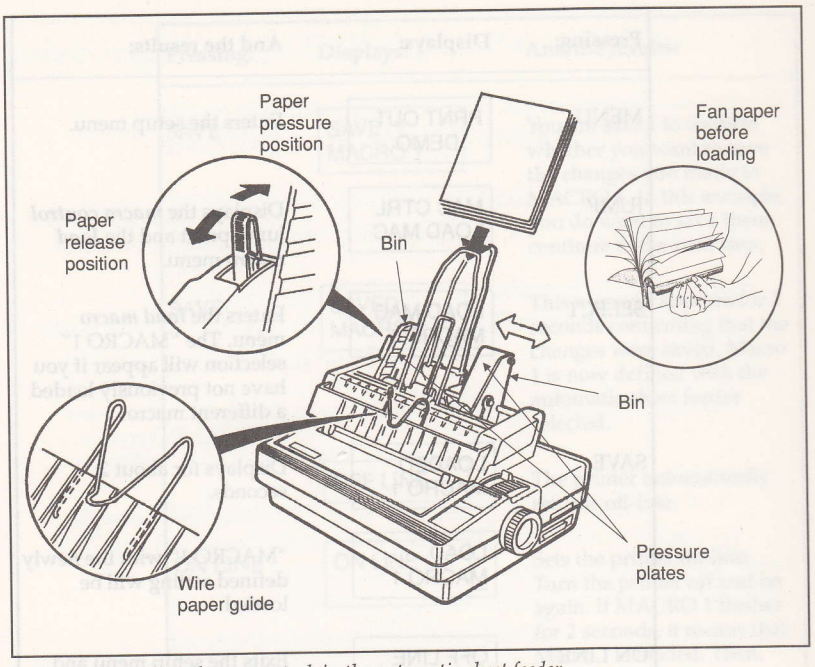


Figure C-4. Loading the paper stack in the automatic sheet feeder.

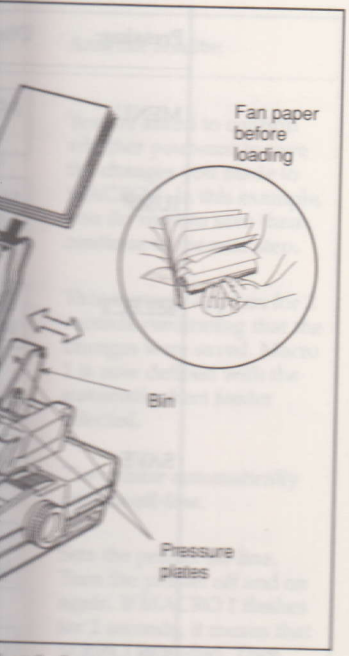
Approximately 100 sheets can be loaded, depending on the paper thickness.

4. After fanning the paper stack, align its edges by tapping the sides and the bottom of the paper stack on a flat surface.

5. Place the paper stack inside the bin. (When using pre-printed paper, load the top edge of the paper upside down with the printed side facing backwards as you would when inserting letterhead in a typewriter.)

6. Move the paper loading lever backward (the paper pressing position). The paper will be held in position by the pressure plates.

If the printer receives data from the computer with the A.S.F. in the paper pressure position, the first



sheet of paper is fed to the top-of-form (TOF) and starts printing automatically.

Changing between continuous forms and single sheets with the A.S.F. installed

With the automatic sheet feeder installed, you can easily alternate between continuous forms and single sheets.

To change from single sheets to continuous forms:
You do not have to remove the automatic sheet feeder or change the A.S.F. menu selection to "OFF" when using continuous forms.

1. If the single sheet is still in the printer, switch the printer off-line and then press the LF/FF key for at least two seconds to eject it.

2. Set the paper select lever to the forward position. Be sure to pull the front short wire forward (see Figure C-2). This will lead the printed forms forward so that they stack in front of the printer.

3. Load or unpark your continuous paper as described in Chapter 3, "Paper Handling."

You will find the tear bar position is changed from the top cover's tear bar to the A.S.F.'s.

To change from continuous forms to single sheets:
You do not have to remove the continuous forms from the tractors when printing on single sheets. Simply:

1. Place the printer off-line.

2. If the continuous-form paper stays in the platen, press the PARK LOAD key. The paper will retract to the parking position.

3. Set the paper select lever to the rear position.

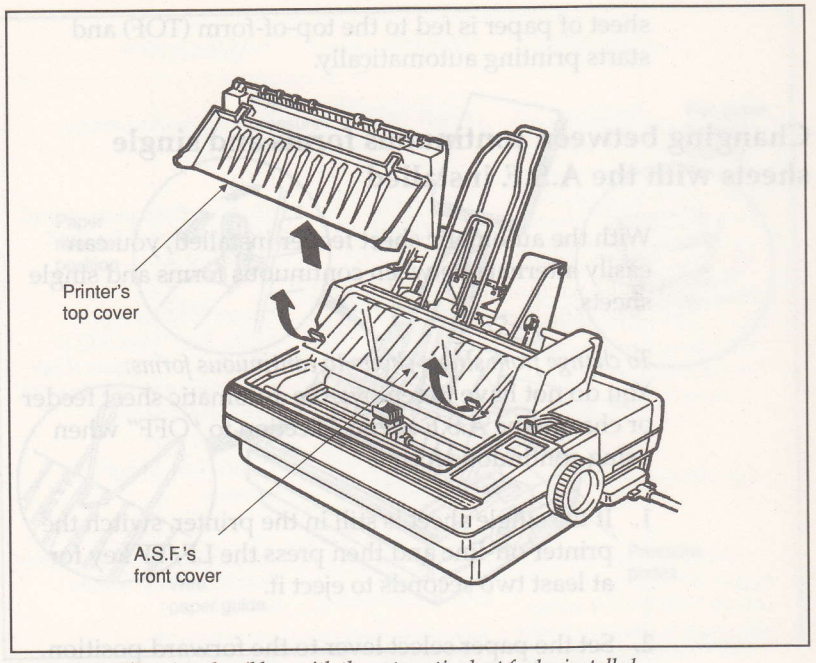
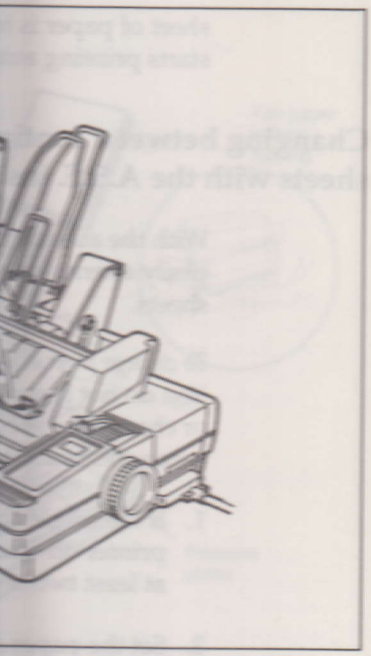


Figure C-5. Changing the ribbon with the automatic sheet feeder installed.

Changing the Ribbon with the A.S.F. Installed

If you need to change the ribbon with the automatic sheet feeder installed, follow these steps:

1. Open the clear part of the printer's top cover.
2. Open the A.S.F.'s front cover by lifting it up as shown in Figure C-5.
3. Remove the printer's top cover.
4. Change the ribbon cassette using the procedure described in Appendix D, "Maintenance."
5. Reinstall the printer's top cover.
6. Close the A.S.F.'s front cover.



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7. Close the printer's top cover so that it rests on the sheet feeder.

Removing the Automatic Sheet Feeder

If you wish to remove the automatic sheet feeder, do the following:

1. Open the clear part of the printer's top cover.
2. Tilt the automatic sheet feeder about 1 inch forward, then lift it up and away from the printer.
3. To disable the A.S.F., do one of the following:

   - ❑ Use the Utility program to define and load a macro turning the A.S.F. "OFF."
   - ❑ Use the control panel to define and load a macro turning the A.S.F. "OFF."
   - ❑ Send the ESC EM command to the printer. See the Reference program for details.

If you do not save the A.S.F. "OFF" selection in a defined macro, the selection will be lost when you turn the printer off. Using a macro allows you to load the macro containing this setting whenever you want to disable the automatic sheet feeder.

Manual Sheet Feeder

The manual sheet feeder permits stacking multiple cut sheets, saving you time and trouble of loading paper sheet by sheet. The manual sheet feeder is unique in that:

- ❑ You can install the manual sheet feeder without removing the tractor unit or paper if the tractor unit is placed in the push tractor position.

❑ Once you have installed the manual sheet feeder, you can easily change from cut sheets to continuous forms without removing the sheet feeder.

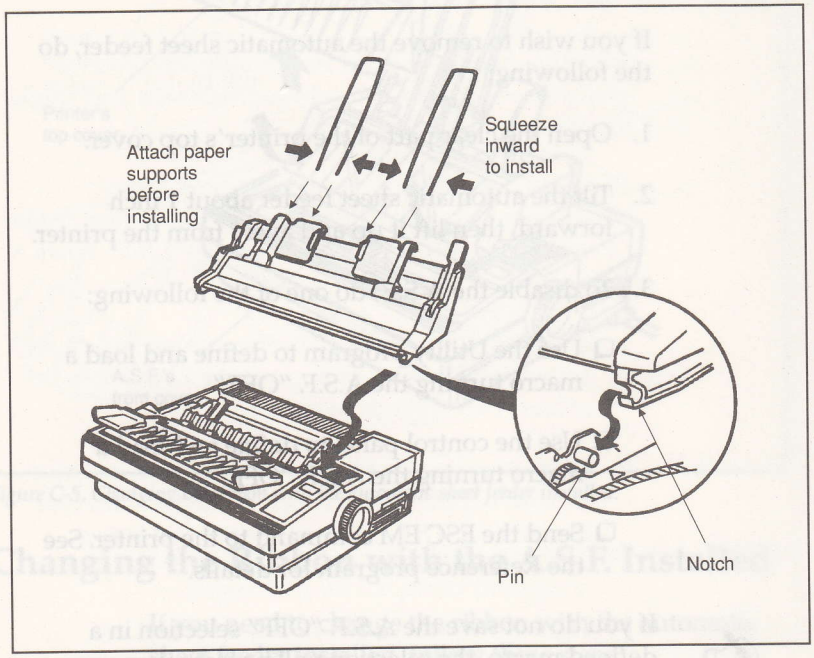

Figure C-6. Installing the manual sheet feeder.

Installing the Manual Sheet Feeder

Follow these steps to install the manual sheet feeder:

1. Install the two paper supports on the paper guides as shown in Figure C-6. The supports can be squeezed in slightly and then inserted into the holes in the paper guides.

2. Open the clear part of the printer's top cover.

3. Holding each end of the sheet feeder unit over the printer, set the notches on the bottom of both ends on to the pins indicated by triangles on the printer.

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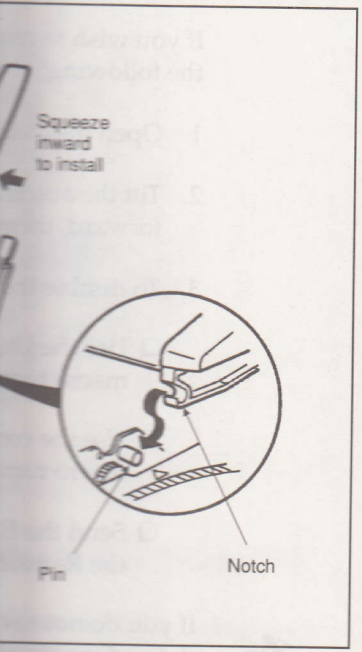

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Lower the sheet feeder in position as shown in Figure C-6. Make sure it fits securely.

4. Set the paper select lever to the rear position.
5. Close the rear half of the printer's top cover.
6. Use the setup menu to make sure that A.S.F. is "OFF" and PAPR OUT is "ON."

Loading Paper in the Manual Sheet Feeder

Here's how to load a stack of single-sheet paper in the manual sheet feeder (see Figure C-7).

1. Move the paper setting lever (the left lever) forward.

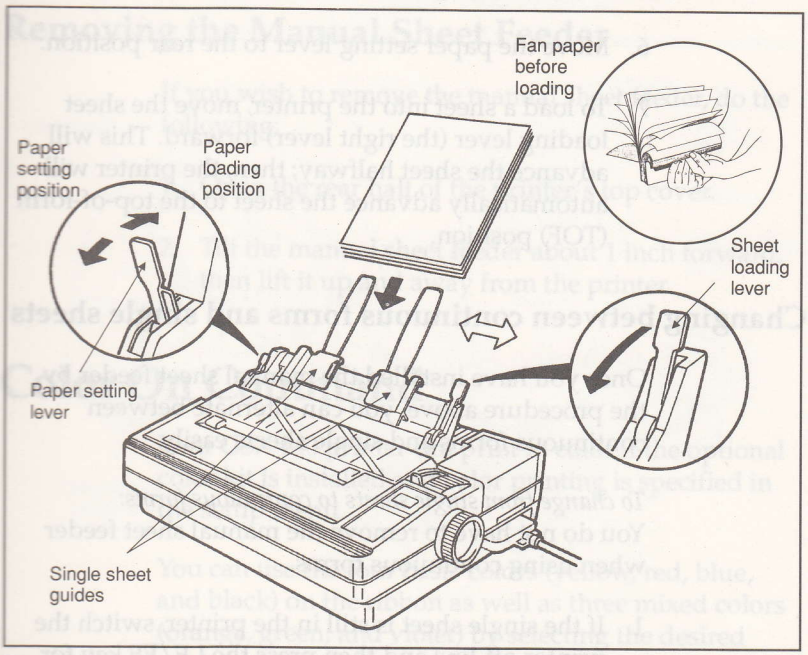

Figure C-7. Setting and loading single-sheet paper on the manual sheet feeder.

C

2. Adjust the left and right guides on the sheet feeder to the size of the paper you are going to use.

3. The paper must be well fanned before stacking into the sheet feeder. This keeps the paper from "sticking" so that only one sheet is fed at a time. Approximately 50 sheets can be loaded, depending on the paper thickness.

4. After fanning the paper stack, align its edges by tapping the sides and the bottom of the paper stack on a flat surface.

5. Place the paper stack between the paper guides. Make sure the guides fit snugly but do not bow the paper stack. (When using letterhead paper, load the top edge of the paper upside down with the printed side facing backwards as you would when inserting letterhead in a typewriter.)

6. Move the paper setting lever to the rear position.

7. To load a sheet into the printer, move the sheet loading lever (the right lever) forward. This will advance the sheet halfway; then, the printer will automatically advance the sheet to the top-of-form (TOF) position.

Changing between continuous forms and single sheets

Once you have installed the manual sheet feeder by the procedure above, you can alternate between continuous forms and single sheets easily.

To change from single sheets to continuous forms:
You do not have to remove the manual sheet feeder when using continuous forms.

1. If the single sheet is still in the printer, switch the printer off-line and then press the LF/FF key for at least two seconds to eject it.

2. Set the paper select lever to the forward position.

3. Load or unpark your continuous paper following the procedures described in Chapter 3, "Paper Handling."

To change from continuous forms to single sheets:
You do not have to remove the continuous forms from the tractors when printing on single sheets. Simply:

1. Place the printer off-line.

2. If the continuous-form paper stays in the platen, press the PARK LOAD key. The paper will retract to the parking position.

3. Set the paper select lever to the rear position.

Removing the Manual Sheet Feeder

If you wish to remove the manual sheet feeder, do the following:

1. Open the rear half of the printer's top cover.

2. Tilt the manual sheet feeder about 1 inch forward, then lift it up and away from the printer.

Color On Command

Your GSX 140 printer can print in color if the optional color kit is installed and color printing is specified in the setup menu.

You can use the four basic colors (yellow, red, blue, and black) on the ribbon as well as three mixed colors (orange, green, and violet) by selecting the desired color in the setup menu or with software commands. You can also select colors using your commercial

software if it supports color printing. Refer to your software manual for details.

In your software program, select a printer driver that supports color printing. In many programs, the Epson LQ-2500 driver can print in color.

Installing the Color Kit

The color kit consists of a color ribbon cassette and a color motor. Install these components by following these steps:

1. Turn the power off.
2. Remove the printer's top cover.
3. Remove the standard ribbon cassette by snapping it out of the printer.

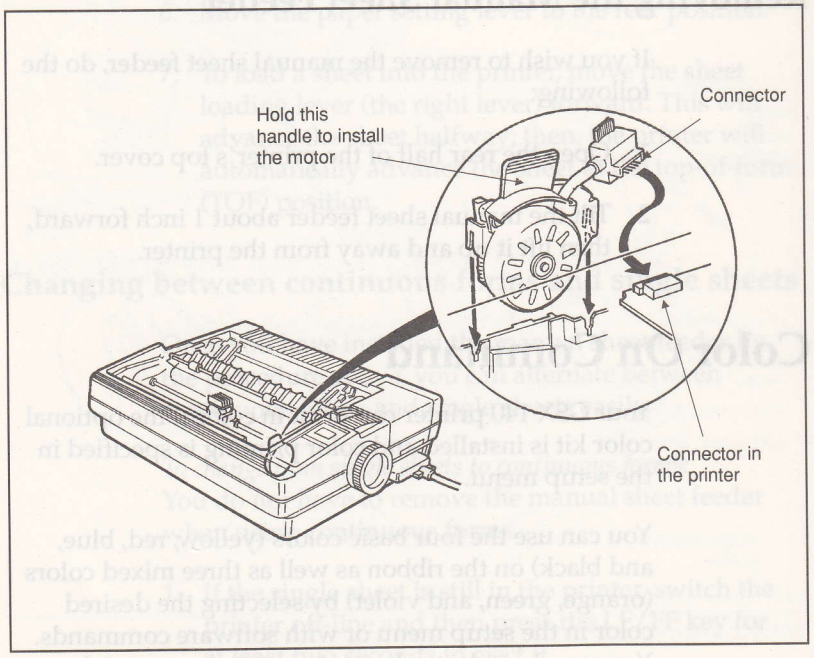

Figure C-8. Installing the color motor.

4. Hold the color motor by the handle on the top of the unit. Make sure that the gear side of the motor is facing left. Fit the two slots on the front and rear bottom of the motor into the two slots on the top of the steel frame in the printer. See Figure C-8.
5. Insert the connector of the color motor into the connector in the printer as shown in Figure C-8.
6. Slide the print head to the center of the platen.
7. Slide the ribbon roller guide of the color ribbon cassette to the center. Position the color ribbon cassette and fit the ribbon roller guide over the print head. See Figure C-9.
8. Lower the cassette into the printer, making sure that the ribbon comes between the print head and ribbon mask.

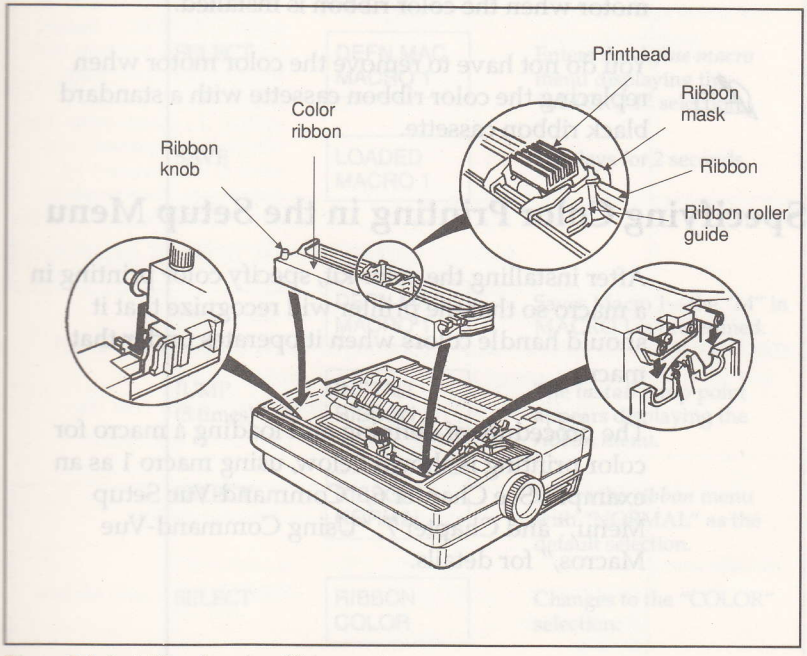

Figure C-9. Installing the color ribbon cassette.

9. Fit the two pins on the right of the cassette and the one pin on the left of the cassette onto the corresponding notches in the printer. Push the cassette down until it clicks into place.
10. Move the print head left and right, making sure that the ribbon knob turns clockwise, feeding the ribbon.
11. Re-install the top cover.
12. Turn the power on.
13. Follow the procedure in the next section to install the color option with the setup menu.

You must use the setup menu to install the color option and set the color before using the printer to avoid damage to the printer. This menu selection causes more power to be applied to the carriage motor when the color ribbon is installed.

You do not have to remove the color motor when replacing the color ribbon cassette with a standard black ribbon cassette.

Specifying Color Printing in the Setup Menu

After installing the color kit, specify color printing in a macro so that the printer will recognize that it should handle colors when it operates under that macro.

The procedure of defining and loading a macro for color printing is shown below, using macro 1 as an example. See Chapter 6, "Command-Vue Setup Menu," and Chapter 7, "Using Command-Vue Macros," for details.

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"Command-Vue Setup
Using Command-Vue

Defining a macro for color printing

Follow these steps to define a macro for color printing:

Pressing:	Displays:	And the results:
ON LINE, if the printer is on-line.	OFF LINE	The printer is now off-line.
MENU	PRNT OUT DEMO	Enters the setup menu.
JUMP	MAC CTRL LOAD MAC	Displays the ***macro control*** jump point and the ***load macro*** menu.
MENU	MAC CTRL DEFN MAC	Displays the ***define macro*** menu.
SELECT	DEFN MAC MACRO 1	Enters the ***define macro*** menu displaying the "MACRO 1" selection.
SAVE	LOADED MACRO 1	Displays for 2 seconds.
	DEFN MAC MACRO 1	Saves Macro 1—the "M" in MACRO 1 is underlined.
JUMP (5 times)	INSTALL RIBBON	The ***install*** jump point appears displaying the ***ribbon*** menu.
SELECT	RIBBON NORMAL	Enters the ***ribbon*** menu with "NORMAL" as the default selection.
SELECT	RIBBON COLOR	Changes to the "COLOR" selection.

(Continued)

C

Pressing:	Displays:	And the results:
SAVE	RIBBON COLOR	Saves the "COLOR" selection.
SAVE	SAVE ? MACRO 1	You are asked to confirm whether you want to save the changes you made to MACRO 1. In this example, you do want to save them; continue to the next step.
SAVE	SAVED MACRO 1	This message appears for 2 seconds confirming that the changes were saved. Macro 1 is now defined with the color ribbon selected.
	OFF LINE	The printer automatically returns off-line.
ON LINE	ON LINE	Sets the printer on-line. Turn the printer off and on again. If MACRO 1 flashes for 2 seconds, it means that Macro 1 is loaded. Then, you can use the color option. If a macro other than Macro 1 is displayed, you need to load macro 1 by completing the procedure described in the next section.

Loading the defined macro to select the color ribbon

Follow these steps to load Macro 1 (which has the color ribbon selected from the previous section):

Pressing:	Displays:	And the results:
ON LINE, if the printer is on-line.	OFF LINE	The printer is now off-line.

(Continued)

Pressing:	Displays:	And the results:
MENU	PRNT OUT DEMO	Enters the setup menu.
JUMP	MAC CTRL LOAD MAC	Displays the ***macro control*** jump point and the ***load macro*** menu.
SELECT	LOAD MAC MACRO 1	Enters the ***load macro*** menu. The "MACRO 1" selection will appear if you have not previously loaded a different macro.
SAVE	LOADED MACRO 1	Displays for about 2 seconds.
	LOAD MACRO 1	"MACRO 1" with the newly defined setting will be loaded.
ON LINE	OFF LINE	Exits the setup menu and returns to off-line.
ON LINE	ON LINE	Sets the printer on-line, ready to print.

Selecting a color in the setup menu

Once you have installed the optional color kit and specified color printing, you can use any one of the seven colors by selecting it in the setup menu by the following procedure:

Pressing:	Displays:	And the results:
ON LINE, if the printer is on-line.	OFF LINE	The printer is now off-line.

(Continued)

And the results:
Saves the "COLOR" selection.
You are asked to confirm whether you want to save the changes you made to MACRO 1. In this example, you do want to save them; continue to the next step.
This message appears for 2 seconds confirming that the changes were saved. Macro 1 is now defined with the color ribbon selected.
The printer automatically returns off-line.
Sets the printer on-line. Turn the printer off and on again. If MACRO 1 flashes for 2 seconds, it means that Macro 1 is loaded. Then, you can use the color option. If a macro other than Macro 1 is displayed, you need to load macro 1 by completing the procedure described in the next section.

lect the color ribbon

Macro 1 (which has the the previous section):

And the results:
The printer is now off-line.

(Continued)

Pressing:	Displays:	And the results:
MENU	PRNT OUT DEMO	Enters the setup menu.
JUMP (3 times)	PRN STYL FONT	Displays the ***print style*** jump point and the ***font*** menu.
MENU (4 times)	PRN STYL COLOR	Displays the ***color*** menu.
SELECT	COLOR BLACK	Enters the ***color*** menu displaying the "BLACK" selection.
SELECT	COLOR RED	Moves to the next selection in the ***color*** menu. If you wish, you can continue to scroll through the colors: "BLUE," "VIOLET," "YELLOW," "ORANGE," "GREEN, "BLACK," "RED" and back to "BLUE" again.
SAVE	COLOR RED	Saves the "RED" selection in the printer's temporary memory. The "R" is underlined.
ON LINE	OFF LINE	Exits the setup menu but the printer is still off-line..
ON LINE	ON LINE	Sets the printer on-line. All menu changes are active.

The above selection is cleared when the printer is turned off. See Chapter 6, "Command-Vue Setup Menu," on how to keep the selection when the printer is turned off.

You can also select color with the quick menu, which is explained in Chapter 5, "Command-Vue Quick Menus."

Correcting color mixing

When you select
proper color ba
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color motor. See

Figure C-10. Adjusting to correct color

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Serial Interface

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communicate w
RS-232C serial i
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communication

And the results:
Enters the setup menu.
Displays the ***print style*** jump point and the ***font*** menu.
Displays the ***color*** menu.
Enters the ***color*** menu displaying the "BLACK" selection.
Moves to the next selection in the ***color*** menu. If you wish, you can continue to scroll through the colors: "BLUE," "VIOLET," "YELLOW," "ORANGE," "GREEN, "BLACK," "RED" and back to "BLUE" again.
Saves the "RED" selection in the printer's temporary memory. The "R" is underlined.
Exits the setup menu but the printer is still off-line..
Sets the printer on-line. All menu changes are active.

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with the quick menu, which
, "Command-Vue Quick

Correcting color mixing

When you select colors, the printer chooses the proper color band on the color ribbon. If colors are mixing, you can fine-adjust the color band selection by moving the small adjustment lever on top of the color motor. See Figure C-10.

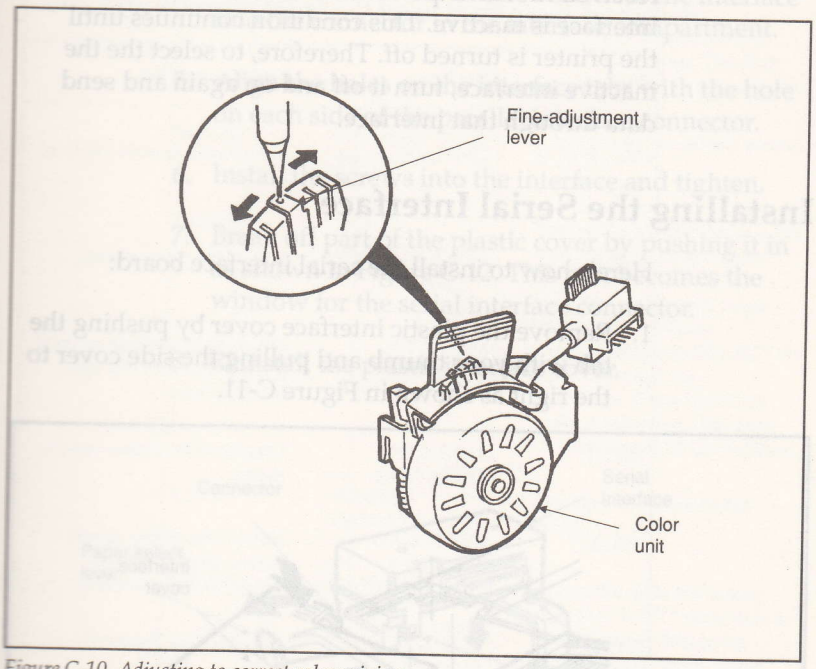

Figure C-10. Adjusting to correct color mixing.

Before sliding the adjustment lever, move the lever a little bit to the right to release the lock.

Serial Interface

The serial interface permits your GSX 140 printer to communicate with a computer which requires an RS-232C serial interface. For proper communication through the serial interface, you need to specify the communication mode in the setup menu by the

procedure described in this section. Refer to Chapter 6, "Command-Vue Setup Menu," for details about using the setup menu.

You can share your printer with two computers by connecting it to two computers through the parallel and serial interfaces. The interface from which data is received first after power on is selected. The other interface is inactive. This condition continues until the printer is turned off. Therefore, to select the the inactive interface, turn it off and on again and send data through that interface.

Installing the Serial Interface

Here's how to install the serial interface board:

1. Remove the plastic interface cover by pushing the tab with your thumb and pulling the side cover to the right as shown in Figure C-11.

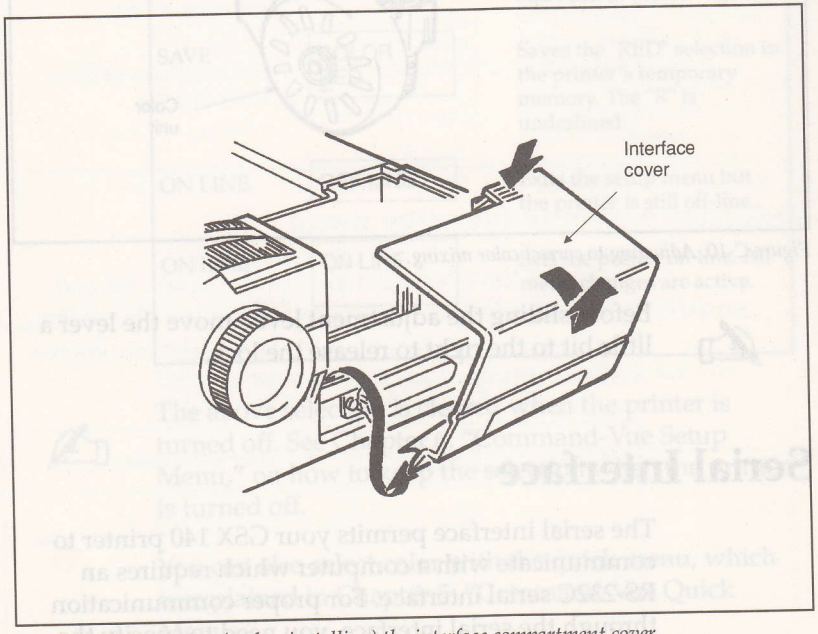

Figure C-11. Removing (and re-installing) the interface compartment cover.

this section. Refer to
Vue Setup Menu," for details
menu.

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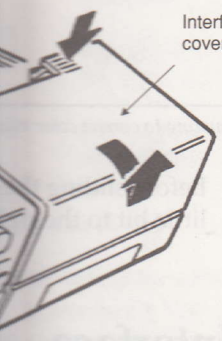


rface compartment cover.

2. If the paper select lever is in the rear position, set it to the forward position so that it doesn't interfere with installation.

3. Insert the serial interface board into the interface compartment as shown in Figure C-12.

4. Insert the connector on the bottom of the interface into the connector in the interface compartment.

5. Align the holes on the interface tabs with the hole on each side of the parallel interface connector.

6. Install the screws into the interface and tighten.

7. Break off part of the plastic cover by pushing it in as shown in Figure C-12. This part becomes the window for the serial interface connector.

8. Reinstall the plastic interface cover.

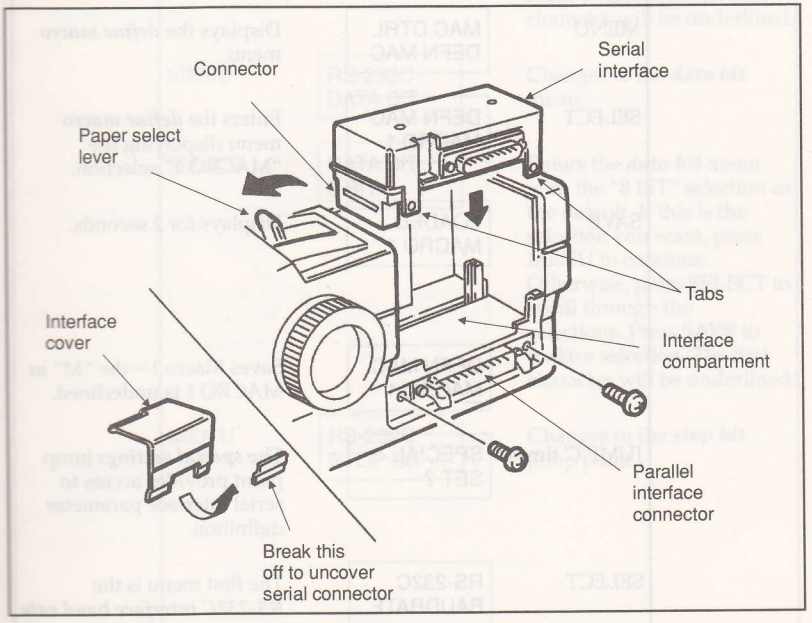


Figure C-12. Installing the serial interface board.

C

Selecting the Serial Interface in the Setup Menu

After installing the serial interface, you must set the serial interface protocol. This can be done by defining a macro in the control panel's setup menu.

Follow these steps to set the serial interface protocol:

Pressing:	Displays:	And the results:
ON LINE, if the printer is on-line.	OFF LINE	The printer is now off-line.
MENU	PRNT OUT DEMO	Enters the setup menu.
JUMP	MAC CTRL LOAD MAC	Displays the ***macro control*** jump point and the ***load macro*** menu.
MENU	MAC CTRL DEFN MAC	Displays the ***define macro*** menu.
SELECT	DEFN MAC MACRO 1	Enters the ***define macro*** menu displaying the "MACRO 1" selection.
SAVE	LOADED MACRO 1	Displays for 2 seconds.
	DEFN MAC MACRO 1	Saves Macro 1—the "M" in MACRO 1 is underlined.
JUMP (7 times)	SPECIAL SET ?	The ***special settings*** jump point provides access to serial interface parameter definition.
SELECT	RS-232C BAUDRATE	The first menu is the ***RS-232C interface baud rate*** menu.

(Continued)

rface in the Setup

erial interface, you must set the col. This can be done by defining l panel's setup menu.

set the serial interface protocol:

	And the results:
E	The printer is now off-line.
UT	Enters the setup menu.
RIL AC	Displays the ***macro control*** jump point and the ***load macro*** menu.
RIL AC	Displays the ***define macro*** menu.
AC 1	Enters the ***define macro*** menu displaying the "MACRO 1" selection.
1	Displays for 2 seconds.
AC 1	Saves Macro 1—the "M" in MACRO 1 is underlined.
	The ***special settings*** jump point provides access to serial interface parameter definition.
TE	The first menu is the ***RS-232C interface baud rate*** menu.

(Continued)

Pressing:	Displays:	And the results:
SELECT	BAUDRATE 9600	Enters the ***baudrate*** menu with "9600" as the default selection. If this is the selection you want, press MENU to continue. Otherwise, press SELECT to scroll through the selections. Press SAVE to make a selection. The first character will be underlined.
MENU	RS-232C PARITY	Changes to the ***parity*** menu.
SELECT	PARITY NONE	Enters the ***parity*** menu with the "NONE" selection as the default. If this is the selection you want, press MENU to continue. Otherwise, press SELECT to scroll through the selections. Press SAVE to make a selection. The first character will be underlined.
MENU	RS-232C DATA BIT	Changes to the ***data bit*** menu.
SELECT	DATA BIT 8 BIT	Enters the ***data bit*** menu with the "8 BIT" selection as the default. If this is the selection you want, press MENU to continue. Otherwise, press SELECT to scroll through the selections. Press SAVE to make a selection. The first character will be underlined.
MENU	RS-232C STOP BIT	Changes to the ***stop bit*** jump point.

(Continued)

C

Pressing:	Displays:	And the results:
SELECT	STOP BIT 1 BIT	Enters the ***stop bit*** menu with the "1 BIT" selection as the default. If this is the selection you want, press MENU to continue. Otherwise, press SELECT to scroll through the selections. Press SAVE to make a selection. The first character will be underlined.
MENU	RS-232C PROTOCOL	Changes to the ***communication protocol*** menu.
SELECT	PROTOCOL XON/XOFF	Enters the ***communication protocol*** menu with the "XON/XOFF" selection as the default. If this is the selection you want, go to the next step. Otherwise, press SELECT to scroll through the selections. Press SAVE to make a selection. The first character will be underlined.
SAVE	SAVE ? MACRO 1	You are asked to confirm whether you want to save the changes you made. In this example, you do want to save them; continue to the next step.
SAVE	SAVED MACRO 1	This message appears for 2 seconds confirming that the changes were saved. All four macros are now defined for the serial interface.
	OFF LINE	The printer automatically returns off-line. Turn the printer off and on again; the new settings will become active.

And the results:
Enters the ***stop bit*** menu with the "1 BIT" selection as the default. If this is the selection you want, press MENU to continue. Otherwise, press SELECT to scroll through the selections. Press SAVE to make a selection. The first character will be underlined.
Changes to the ***communication protocol*** menu.
Enters the ***communication protocol*** menu with the "XON/XOFF" selection as the default. If this is the selection you want, go to the next step. Otherwise, press SELECT to scroll through the selections. Press SAVE to make a selection. The first character will be underlined.
You are asked to confirm whether you want to save the changes you made. In this example, you do want to save them; continue to the next step.
This message appears for 2 seconds confirming that the changes were saved. All four macros are now defined for the serial interface.
The printer automatically returns off-line. Turn the printer off and on again; the new settings will become active.

Though you define only one macro, the same settings are automatically copied to all four macros.

To make the changed settings effective, turn the printer off and then on again.

Printer Stand

Your GSX 140 printer stand allows you to easily use bottom-feed continuous paper, multi-part forms, labels and thick paper.

Follow these steps to assemble the printer stand:

1. Position the three pieces as shown in Figure C-13. Note that the higher edge of the front piece should be toward the front. The side pieces are identical and therefore interchangeable.

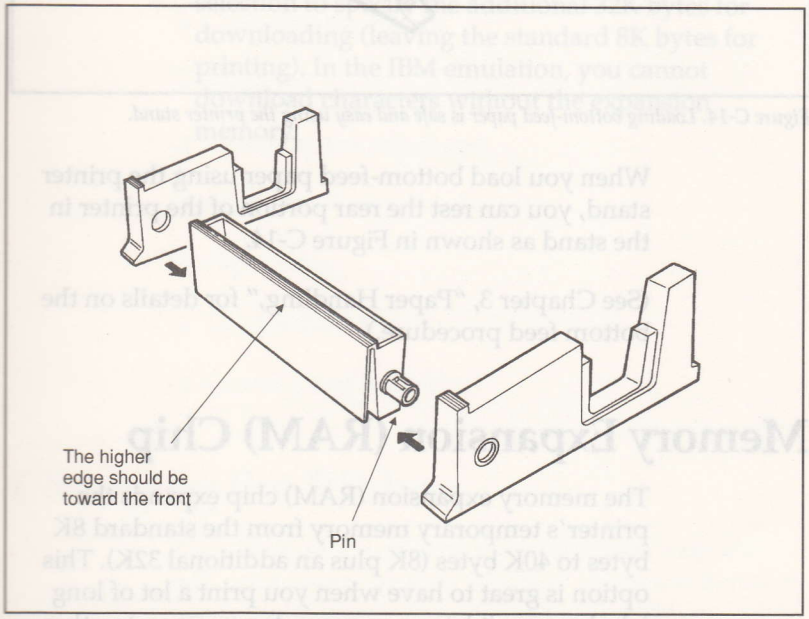


Figure C-13. Assembling the printer stand.

2. Push the thick pin on each side of the front piece into the hole of each side piece. The pins will hold the pieces securely in place.

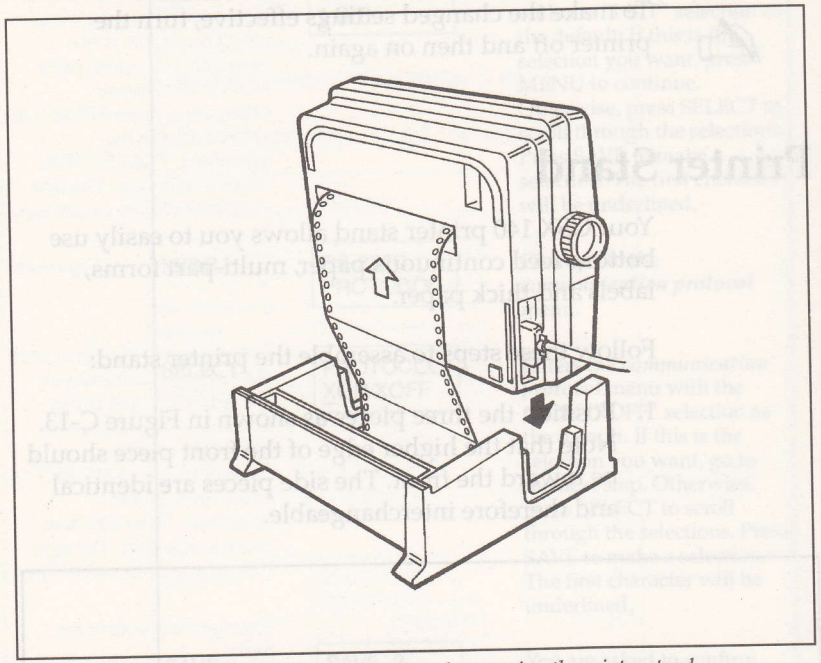


Figure C-14. Loading bottom-feed paper is safe and easy using the printer stand.

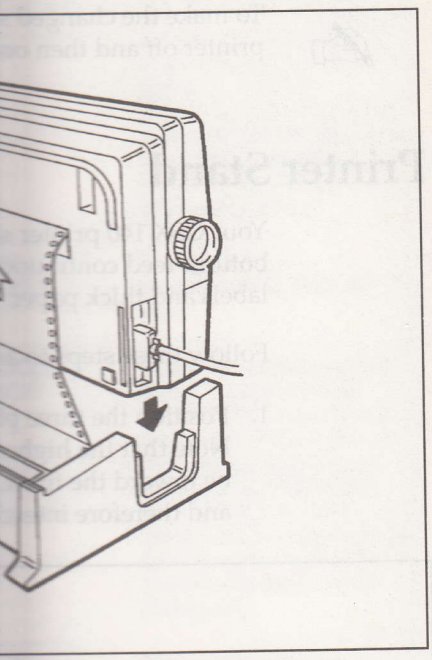
When you load bottom-feed paper using the printer stand, you can rest the rear portion of the printer in the stand as shown in Figure C-14.

(See Chapter 3, "Paper Handling," for details on the bottom feed procedure.)

Memory Expansion (RAM) Chip

The memory expansion (RAM) chip expands the printer's temporary memory from the standard 8K bytes to 40K bytes (8K plus an additional 32K). This option is great to have when you print a lot of long jobs because it lets your computer move on to other

pin on each side of the front piece
each side piece. The pins will hold
ely in place.



safe and easy using the printer stand.

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Paper Handling," for details on the
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on (RAM) Chip

ansion (RAM) chip expands the
ry memory from the standard 8K
s (8K plus an additional 32K). This
have when you print a lot of long
s your computer move on to other

tasks while the GSX 140 continues to work. Contact your dealer for details about purchasing this option.

The printer's memory works somewhat differently, depending on whether you are using the Epson or IBM emulation:

In the Epson emulation, the entire 40K bytes are used to receive data. In the setup menu, set the OPTN RAM menu to the "BUFFER" selection.

In the IBM emulation, you can specify the additional 32K bytes as either a buffer to receive print data or to store download characters. In the setup menu, do one of the following:

- ❑ set the OPTN RAM menu to the "BUFFER" selection to specify the entire 40K bytes for print data;
- ❑ set the OPTN RAM menu to the "DOWNLOAD" selection to specify the additional 32K bytes for downloading (leaving the standard 8K bytes for printing). In the IBM emulation, you cannot download characters without the expansion memory.

Appendix

Mainten

Appendix D
Maintenance

The GSX 140 printer was designed to give you long and trouble-free service with minimal operator care. Consequently, maintenance procedures for this printer are few and simple. If you followed the suggestions in Chapter 1, "Setup," for locating your printer in a clean, climate-controlled area, and give a little regular attention to the items covered in this appendix, you will get the best possible performance from this sturdy printer. In addition to maintenance steps, this appendix covers error messages and problem-solving measures. Details are covered in the following sections:

- ❑ Changing the ribbon
- ❑ Cleaning
- ❑ Replacing the printhead
- ❑ Alarms and error messages
- ❑ Paper jams
- ❑ Troubleshooting
- ❑ Running test prints

Changing the Ribbon

The ribbon in the cassette is a continuous loop and will print approximately 2 million characters before it needs replacement. The GSX 140 uses a ribbon cassette with an ink ribbon that is made especially for

24-pin printers (as opposed to ribbons made for 9-pin printers). This sounds like a sales pitch but it's true: we recommend the Citizen replacement ribbon because its special combination of high-density fabric and ink actually results in denser black printing, longer ribbon life, and increased printhead life.

There are other ribbon cassettes available which will fit in the GSX 140; do not use these, for they will not produce satisfactory printing results and may damage the print head.

Never use ribbon cassettes or ribbon refill kits made for 9-pin printers; the pins in the printhead may puncture the ribbon and damage the printhead. Make sure that the ribbon you select is explicitly for the GSX 140 printer. The use of re-inking kits is also discouraged, for the ink does not meet Citizen specifications for the 24-pin printhead.

When it is time to change the ribbon, you will find the procedure is quick and easy. Follow these steps:

Be sure the printhead is cool before performing any procedures inside the printer!

1. Turn off the printer.
2. Remove the top cover (as explained in Chapter 1, "Setup").
3. Slide the printhead to the center.
4. Snap out the old ribbon cassette. Now is a good time to take a few minutes to clean the inside of the printer. Follow the instructions in the next section.
5. Install a new ribbon cassette. Carefully follow the instructions for correct ribbon placement. Improper placement can cause smudged printing and may jam the ribbon.

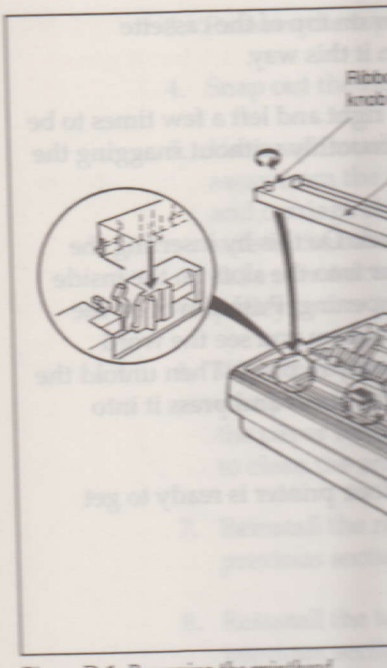

Figure D-1. Removing the printhead.

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ribbon knob a
from the floor
end.

6. Lower the ribb
down. When
cassette will
Figure D-1.

7. Slide the ribb
printhead an
to do! Do not
is by incorrec
ribbon mask
closest to the

8. Advance the
ribbon knob

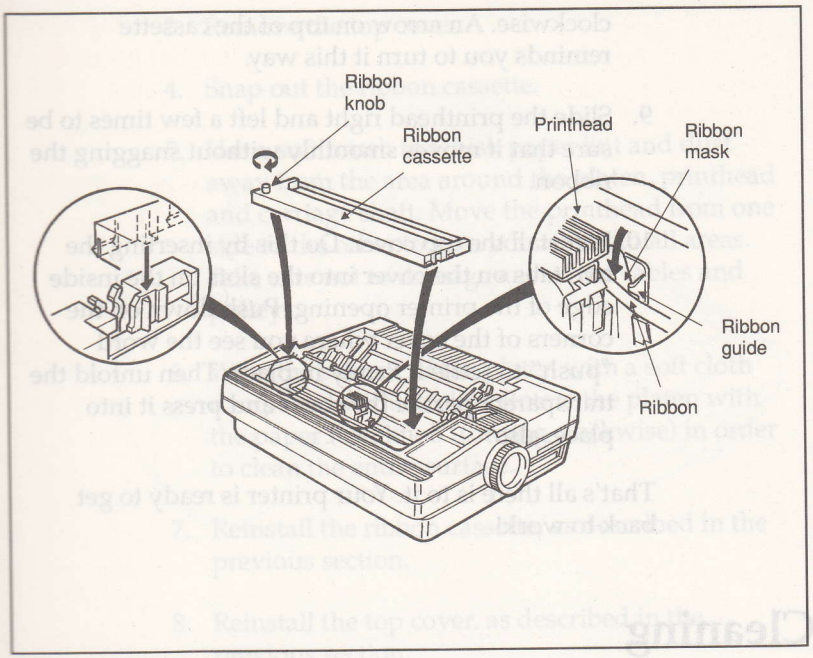


Figure D-1. Removing the printhead.

Remove the new cassette from the packaging and position it over the printer opening with the ribbon knob aligned over the post protruding from the floor of the printer opening on the left end.

6. Lower the ribbon cassette into place and snap it down. When properly installed, the ribbon cassette will not lift out easily; it "snaps" out. See Figure D-1.

7. Slide the ribbon down into position between the printhead and the metal ribbon mask. This is easy to do! Do not try to make this step harder than it is by incorrectly forcing the ribbon between the ribbon mask and the ribbon guide (the black plate closest to the platen). See Figure D-1.

8. Advance the ribbon until there is no slack. The ribbon knob turns in only one direction,

clockwise. An arrow on top of the cassette reminds you to turn it this way.

9. Slide the printhead right and left a few times to be sure that it moves smoothly without snagging the ribbon.

10. Reinstall the top cover. Do this by inserting the two tabs on the cover into the slots on the inside edge of the printer opening. Push down on the corners of the cover where you see the word "push" to settle it firmly in place. Then unfold the transparent part of the cover and press it into place, also.

That's all there is to it. Your printer is ready to get back to work!

Cleaning

The printer cover will keep out most of the dust and dirt which accumulates in operating areas. However, it is still a good idea to periodically clean out paper dust and other stray particles which may find their way into your printer. Dusting the outside of the printer occasionally will reduce the incidence of foreign matter in the printer opening.

If the GSX is used heavily or in a dusty environment, consult your service center for advice on yearly cleaning and lubrication.

Be sure the printhead is cool before performing any procedures inside the printer!

1. Turn off the printer.

2. Wipe the outside of the printer with a lint-free cloth which has been moistened with a mild detergent solution.

3. Remove the top c

4. Snap out the ribb

5. Use a soft brush t away from the ar and carriage shaf side to the other Take care not to pulleys.

6. Wipe the surface dampened with the paper feed k to clean the entir

7. Reinstall the ribb previous section

8. Reinstall the top previous section

Replacing the Prin

The GSX 140 printh estimated 200 milli well-treated printhe Consequently, on this crucial elemen

Be sure the printh procedures inside

1. Turn off the pr

2. Remove the to

3. Snap out the r

3. Remove the top cover.

4. Snap out the ribbon cassette.

5. Use a soft brush to whisk paper lint and dust away from the area around the platen, printhead and carriage shaft. Move the printhead from one side to the other to give you access to all areas. Take care not to damage any of the cables and pulleys.

6. Wipe the surface of the platen with a soft cloth dampened with alcohol. Rotate the platen with the paper feed knob (turning clockwise) in order to clean the entire surface.

7. Reinstall the ribbon cassette, as described in the previous section.

8. Reinstall the top cover, as described in the previous section.

Replacing the Printhead

The GSX 140 printhead has a very long life, an estimated 200 million strokes per wire. However, a well-treated printer will outlast several printheads. Consequently, on occasion you will need to replace this crucial element. Follow these steps:

Be sure the printhead is cool before performing any procedures inside the printer!

1. Turn off the printer.

2. Remove the top cover.

3. Snap out the ribbon cassette.

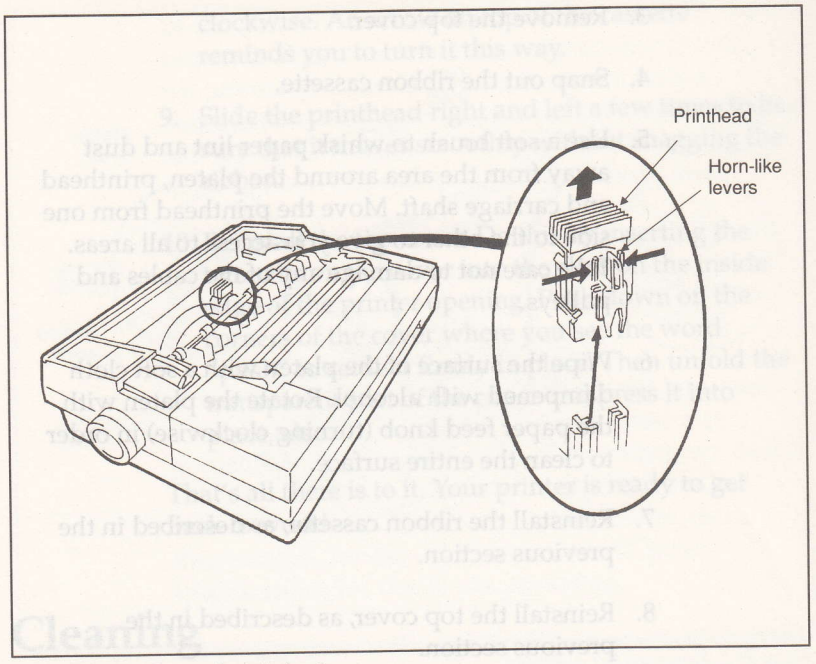


Figure D-2. Removing the printhead.

4. Gently pull up the left side of the printhead cable clamp (a black bar).
   Do not pull up the right side.

5. Remove the printhead by pinching together a pair of horn-like levers in the rear and pulling upwards. (See Figure D-2.)

6. Disconnect the two cables from the printhead by pulling them straight backwards. See Figure D-3.

7. Unwrap the new printhead and attach the cables to it. Be sure to get the cables in the right connectors. This is not hard to do because one of the cables has a slightly narrower connector than the other. The narrower cable attaches to the bottom connector and is the "inside" cable when they are installed. Remember that the unprinted side of the cable faces up at the point where they connect to the printhead.

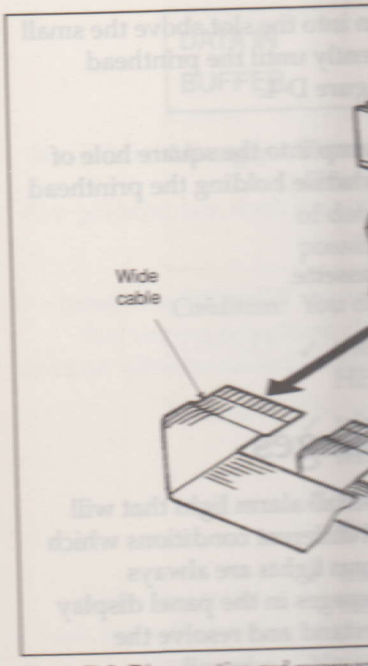


Figure D-3. Disconnecting and reconnec

8. Reinstall the
   the outside
   the printhea
   metal ribbo

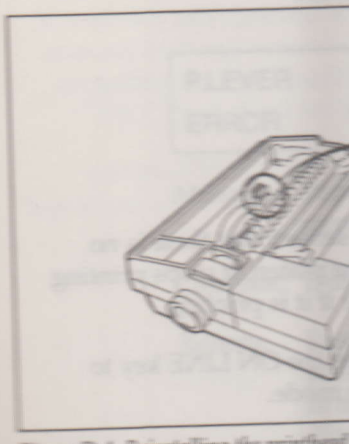
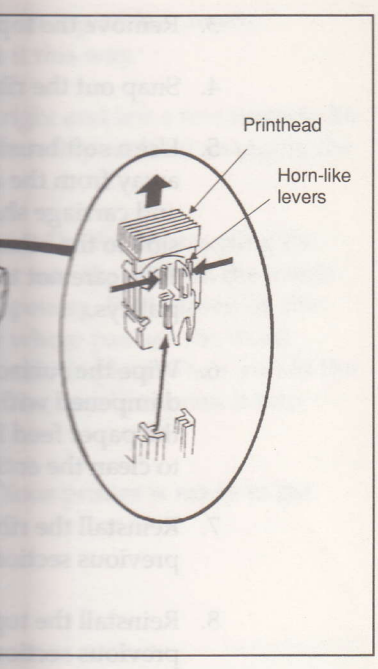


Figure D-4. Reinstalling the printhead



eft side of the printhead cable

right side.

ead by pinching together a pair
in the rear and pulling
re D-2.)

cables from the printhead by
ht backwards. See Figure D-3.

rinthead and attach the cables
the cables in the right
not hard to do because one of
htly narrower connector than
wer cable attaches to the
nd is the "inside" cable when
Remember that the unprinted
es up at the point where they
thead.

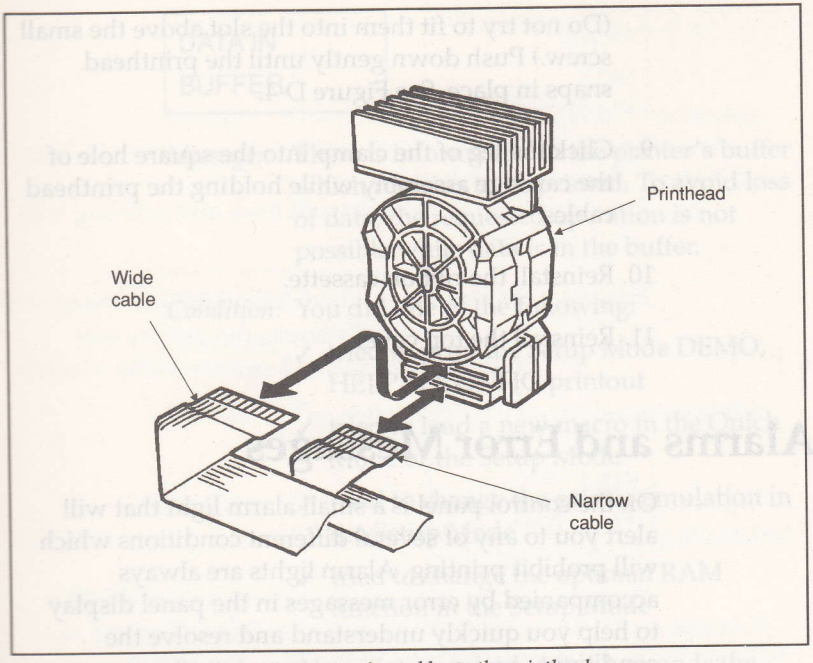


Figure D-3. Disconnecting and reconnecting cables to the printhead.

8. Reinstall the printhead, being careful to position the outside leg-like extensions on the *exterior* of the printhead holder. They will actually touch the metal ribbon mask as you install the printhead.

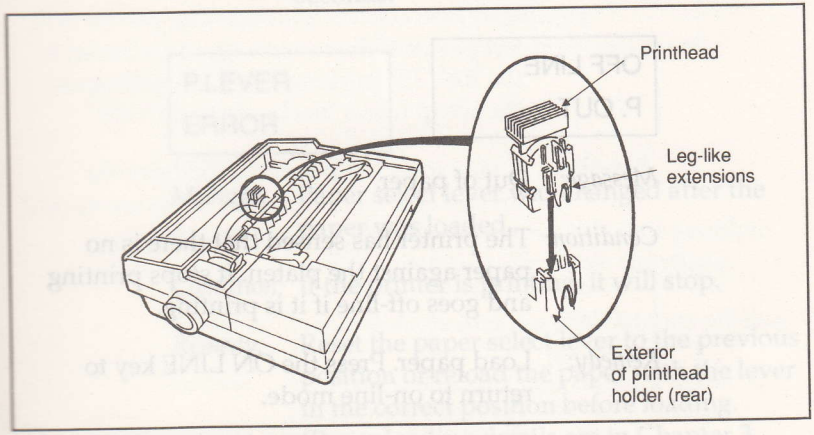


Figure D-4. Reinstalling the printhead.

(Do not try to fit them into the slot above the small screw.) Push down gently until the printhead snaps in place. See Figure D-4.

9. Click the leg of the clamp into the square hole of the carriage assembly while holding the printhead cables.

10. Reinstall the ribbon cassette.

11. Reinstall the top cover.

Alarms and Error Messages

On the control panel is a small alarm light that will alert you to any of several different conditions which will prohibit printing. Alarm lights are always accompanied by error messages in the panel display to help you quickly understand and resolve the condition.

Following are the types of alarms you can receive and how to clear the errors which caused them.

Printer Operation

OFF LINE
P. OUT

Message: Out of paper.

Condition: The printer has sensed that there is no paper against the platen. It stops printing and goes off-line if it is printing.

Remedy: Load paper. Press the ON LINE key to return to on-line mode.

DATA IN
BUFFER

Message: There is information in the printer's buffer which remains to be printed. To avoid loss of data, the requested operation is not possible while data is in the buffer.

Condition: You did one of the following:

- ✓ tried to print the Setup Mode DEMO, HELP or CONFIG printout
- ✓ tried to load a new macro in the Quick Mode or the Setup Mode
- ✓ tried to change the printer emulation in the Setup Mode
- ✓ tried to change the optional RAM function in the Setup Mode

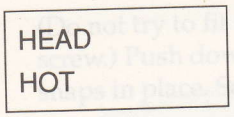
Remedy: No action required. After 2 seconds the printer returns to its previous condition. If you want to cancel the print job and clear the buffer, first take the printer off-line, then while holding down the SAVE key, press the ON LINE key for at least 3 seconds.

P.LEVER
ERROR

Message: Paper select lever was changed after the paper was loaded.

Condition: If the printer is printing, it will stop.

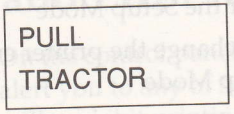
Remedy: Reset the paper select lever to the previous position or reload the paper with the lever in the correct position before loading. (Paper loading details are in Chapter 3, "Paper Handling.")



Message: This is a warning that the printhead is hot.

Condition: The alarm light will flash and printing will stop.

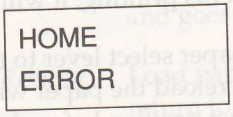
Remedy: No action required. When the printhead has cooled sufficiently, the printer will return to on-line and automatically resume printing.



Message: The printer received a command which would cause a reverse line feed when the tractor was mounted in the "pull" position. (Double-high printing requires a reverse line feed, so this is the most likely cause.)

Condition: Printing stops. After 2 seconds the printer will resume printing, but the reverse line feed operation is ignored. The printer will not perform the reverse line feed because the REV LF (reverse line feed) setting on the setup menu has been set to "OFF."

Remedy: If you want the printer to perform the reverse line feed, enter the setup menu and turn on the REV LF setting.



Message: The printhead was not positioned properly.

Condition: The printer will stop printing and go off-line.

Remedy: Open the top cover and check for foreign matter in the printer opening. Turn the printer off and back on again. Restart the print job.

S.I/F
ERROR

Message: The serial interface board is not receiving clear signals.

Condition: The serial interface board is incorrectly installed or is damaged. Printing stops and the printer goes off-line.

Remedy: Turn the printer off and back on again. If the message reappears, turn off the printer and try reinstalling the serial interface board. If problems continue, contact your dealer.

RAM
ERROR

EEPROM
ERROR

PIN
ERROR

Message: These alarm messages indicate a problem with the printer's electronic functions.

Condition: Printing stops and the printer goes off-line.

Remedy: Turn the printer off and back on again. If the message persists, call your dealer.

D

Paper Jams

PAPER
JAM

Message: Paper has jammed.

Condition: Printing stops and the printer goes off-line.

Remedy: Remove the jammed paper, then press the ON LINE key.

PAPERSEN
ERROR

Message: Rear-feed and bottom-feed paper were loaded simultaneously.

Condition: The printer will go off-line.

Remedy: Retract both papers and reload one of them.

Troubleshooting

This section discusses some of the difficulties operators sometimes encounter. All of the possible user actions are listed. *If these suggestions do not solve the problem, contact your dealer. Do not try to repair the printer yourself.*

Power

Problem: Printer is turned on but the POWER light on the control panel remains off.

✓ Check the power cord. Is it firmly connected to the wall outlet?

Paper Feeding

Problem: Cont

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✓ Is
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✓ I

✓ D

✓

Problem: Sim

✓

Problem: Pa

✓

✓

Paper Feeding

Problem: Continuous-feed paper jams.

- ✓ Are the tractor feeders locked?
- ✓ Is the paper select lever set to the forward (paper stack) position?
- ✓ Is the paper thickness lever correctly set for the type of paper you are using? (Multi-part forms require a different setting from single sheets. See Chapter 3, "Paper Handling.")
- ✓ Is the top cover installed and closed properly?
- ✓ Is the unprinted paper stack straight?
- ✓ Does the exiting paper have a clear path which does not interfere with the incoming paper?
- ✓ Is the incoming paper tangling with the power cord and/or computer cable?

Problem: Single sheet jams at insertion.

- ✓ The printhead must center itself on the paper to properly guide the paper around the platen. If it is not doing so, adjust the centering position with the PG CNTR menu in the setup menu.

Problem: Paper does not feed.

- ✓ Is your continuous paper set in the tractor feeders correctly?
- ✓ Remember that the paper select lever must be set in the rear position for single sheets and in the forward position for continuous-feed paper.

Problem: Paper parking does not operate.

- ✓ The paper select lever must be set for continuous paper (forward position) to park the paper. Change it to the rear position only after the continuous paper is parked.
- ✓ Is the tractor in the "pull" position? Paper parking does not work when the tractor is in the "pull" position. Remount the tractor in the "push" position and reload your continuous paper through the rear.
- ✓ The printer must be off-line to park the paper. Check the control panel display to see if it is off-line.
- ✓ Check the Setup Mode PAPR OUT menu. This must be set "ON" for paper parking.

Problem: Perforation tear-off does not operate.

- ✓ See the solutions for "paper parking."

Problem: Tear-off position is not at the perforation.

- ✓ Check the length of your paper against the FRM LNTH (form length) setting on the setup menu. They must match.
- ✓ Also on the setup menu, the A.S.F. (automatic sheet feeder) selection must be "OFF." When it is on, the tear-off position is the tear edge of the front cover of the automatic sheet feeder. (See Appendix C, "Options," for more information on the automatic sheet feeder.)

Problem: Paper does not feed from the automatic sheet feeder.

- ✓ Is the paper select lever in the rear (single sheet) position?

- ✓ Be sure the A.S.F. (automatic sheet feeder) is set to "ON" on the setup menu.
- ✓ Check the setup menu PAPR OUT selection; it should be "ON."
- ✓ Have you left the paper loading lever of the automatic sheet feeder forward in the "paper release" position? Set it back to the "paper pressing" position.
- ✓ Finally, confirm that the automatic sheet feeder is installed correctly. Do this by turning off the printer and then turning the paper feed knob clockwise to see if the automatic sheet feeder ejection rollers rotate. If not, try reinstalling the automatic sheet feeder following the instructions in Appendix C, "Options."

Problem: Paper does not feed from the manual sheet feeder.

- ✓ Be sure the A.S.F. (automatic sheet feeder) is set to "OFF" on the setup menu.
- ✓ Check the setup menu PAPR OUT selection; it should be "ON."

Printing Operation

Problem: Printhead does not move.

- ✓ Open the top cover and try turning the ribbon knob. If it is jammed, replace the ribbon cassette with a new one.
- ✓ Check the carriage shaft (the rod on which the printhead moves) for dirt. Slide the printhead from side-to-side to see if it glides smoothly. If not, the carriage shaft and the carriage may need lubrication; contact your service center for this type of maintenance.

Printing Results

Problem: Printer does not print at all.

- ✓ Is the ribbon cassette properly installed so that the ribbon feeds between the printhead and the ribbon mask (not between the ribbon mask and the black ribbon guide against the platen)?
- ✓ Check to see if the printhead cables are attached to the printhead. If not, follow the instructions in this appendix for replacing the printhead.

Problem: Printing is faint.

- ✓ Check the paper thickness lever for correct location. If you are not printing on multi-part copies or other thick paper, the lever should be at the standard position pointer.
- ✓ You may need a new ribbon. This appendix explains how to replace the ribbon cassette.
- ✓ Remove the ribbon cassette and try turning the ribbon knob. If it is jammed, replace the ribbon cassette with a new one.

Problem: Printing is faint on fourth copy.

- ✓ Four-part multi-part forms should always be bottom-fed through the printer so that the tractor unit pulls the forms instead of pushing them. Check to be sure you have your paper loaded this way.
- ✓ Use the Utility and Reference disk or the setup menu to set the CPY MODE menu. CPY MODE must be "ON" to print on four-part forms.

✓ We recommend using the sans serif font because it is the most readable font.

Problem: Ink smudges on paper.

✓ Check the paper thickness lever for correct location. It may be too close to the platen. Keep the lever set at the standard position pointer unless you are printing on thick paper or multi-part forms.

Color Printing

Problem: Printer will not print in color.

✓ Is the color ribbon installed correctly? See Appendix C, "Options."

✓ Is the color motor installed correctly? See Appendix C, "Options."

✓ Use the Utility and Reference disk or the setup menu to select the "COLOR" selection on the RIBBON menu.

Problem: Colors mix.

✓ Is the color ribbon installed correctly? See Appendix C, "Options."

✓ The ribbon may be at the wrong height. It can be adjusted with the small lever on the color motor unit. See Appendix C, "Options."

Printing Characteristics

Problem: Printer does not produce expected printing characteristics.

✓ Be sure that the printer selected on your software package matches the printer you have selected on the emulation menu.

If you have set the GSX 140 to emulate an Epson printer, your software program should have an LQ series printer selected (such as Epson LQ-2500, LQ-850 or LQ-500). If you have set the GSX 140 to emulate an IBM printer, your software program should have the IBM Proprinter X24 selected. Refer to Chapter 4, "Setting Up Commercial Software," for additional information and recommendations.

If you can't remember the current settings or the settings you have saved in any of the defined macros, you can print out a configuration report which will list them for you. Refer to "Configuration Printout" in Chapter 6, "Command-Vue Setup Menu," for instructions.

Problem: Setup menu settings are lost when printer is turned off.

✓ All menu changes are lost when you turn off the printer if you have not saved your changes in a macro. See Chapter 8, "Using the Bonus Utility and Reference Disk" or Chapter 7, "Using Command-Vue Macros," for complete details on how to store your special printer settings.

Problem: Defined menu settings do not take effect.

✓ You can save setup menu changes in a macro but they will not take effect until that macro is selected. You can load your macro using the Utility and Reference disk or the "LOAD MAC" function on the setup menu. See Chapter 8, "Using the Bonus Utility and Reference Disk" or Chapter 6, "Command-Vue Setup Menu."

Running Test Prints

There are three ways of testing your printer to confirm printing results. They include:

- ❑ Self-test
- ❑ Maintenance test
- ❑ Hex dump

To produce the three test prints, you will need to hold down one or more keys on the control panel while you switch on power to the printer. Use Figure D-5 as a guide.

Self Test

The self test provides a good overview of how the printer is working. It will indicate: 1) whether or not the printer is operating normally; 2) if the ribbon and paper are installed correctly, and 3) proper adjustment of the paper thickness lever. Figure D-6 is an example of the self test printout.

1. Load paper.
2. Make sure that the printer power is turned off.

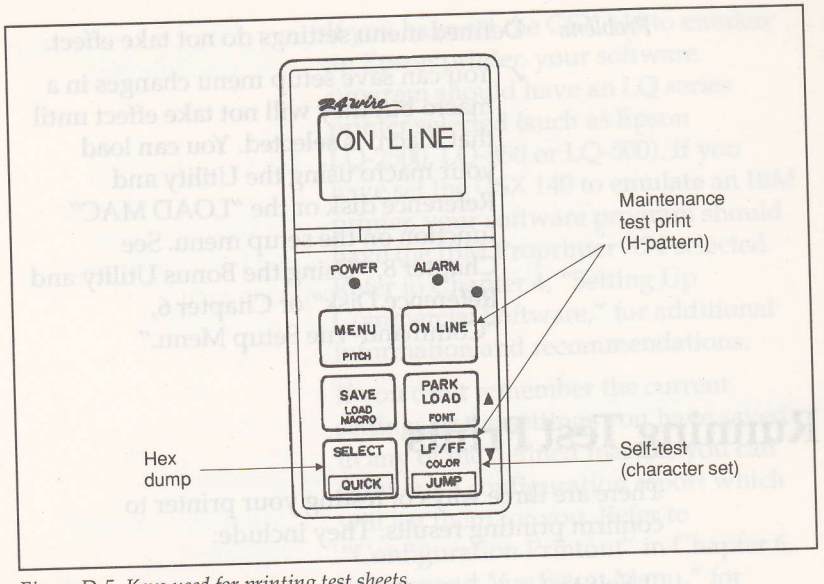

Figure D-5. Keys used for printing test sheets.

3. While holding the LF/FF key, turn on the printer.

4. Interrupt the test by pressing the ON LINE key once. This interrupts the test print but does not actually stop it. If you wish to continue the test, press ON LINE again. When you want to discontinue the test, turn off the printer.

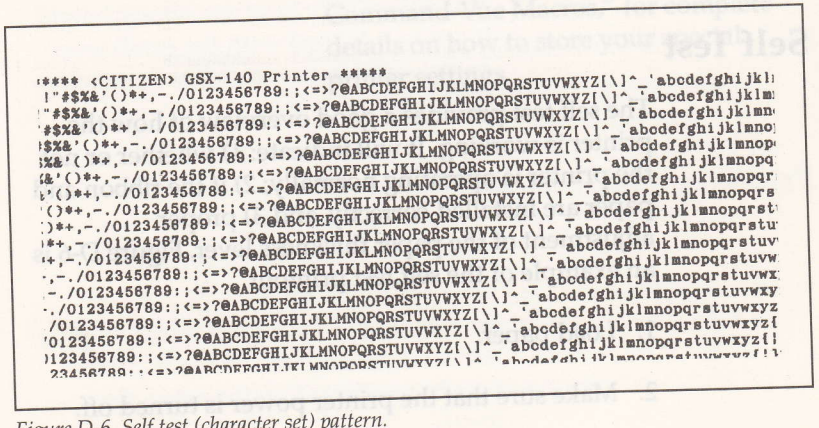

Figure D-6. Self test (character set) pattern.

Maintenance Test

With this printout y
alignment. Figure D
maintenance test pr

1. Load paper.
2. Make sure that
3. While holding
   LF/FF key, turn
4. Interrupt the te
   once. This inter
   actually stop it.
   press ON LINE
   discontinue the

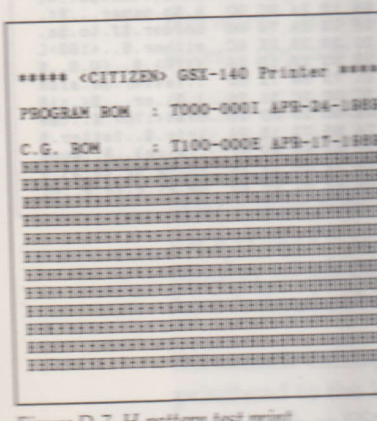

Figure D-7. H-pattern test print.

Hex Dump

The hex dump is
programs. It sho
codes actually se
codes on each li
code represents
sheet. Control co

Maintenance Test

With this printout you will see an example of column alignment. Figure D-7 is an example of the maintenance test printout.

1. Load paper.
2. Make sure that the printer power is turned off.
3. While holding both the ON LINE key and the LF/FF key, turn on the printer.
4. Interrupt the test by pressing the ON LINE key once. This interrupts the test print but does not actually stop it. If you wish to continue the test, press ON LINE again. When you want to discontinue the test, turn off the printer.

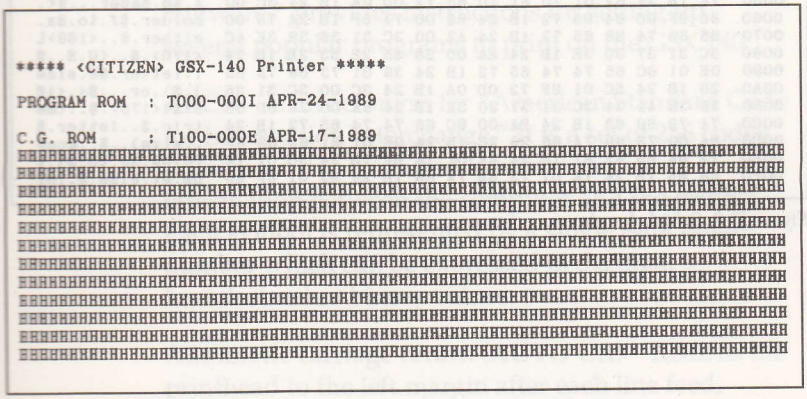

Figure D-7. H-pattern test print.

Hex Dump

The hex dump is a useful tool for debugging programs. It shows the hexadecimal values of the codes actually sent by your computer, printing 16 codes on each line. In addition, the character each code represents is printed at the right side of the sheet. Control codes—codes with hexadecimal value

less than 20—are shown as periods. Figure D-8 is an example of the hex dump printout.

1. Load paper.
2. Make sure that the printer power is turned off.
3. While holding the SELECT key, turn on the printer.
4. Send data from your computer.
5. Exit hex dump printing by turning the printer off.

```
***** <CITIZEN> GSX-140 Printer *****

0000  1B 40 1B 43 42 0D 1B 24 3C 00 1B 24 5A 00 54 6F  .@.CB..$<..$Z.To
0010  1B 24 6C 00 75 73 65 1B 24 84 00 74 68 65 1B 24  .$l.use.$..the.$
0020  9C 00 70 61 70 65 72 1B 24 C0 00 67 75 69 64 65  ..paper.$..guide
0030  2C 1B 24 EA 00 73 69 6D 70 6C 79 1B 24 14 01 73  ,.$..simply.$...s
0040  65 74 1B 24 2C 01 74 68 65 1B 24 44 01 6C 65 66  et.$,.the.$D.lef
0050  74 1B 24 62 01 70 61 70 65 72 0D 0A 1B 24 3C 00  t.$b.paper...$<.
0060  68 6F 6C 64 65 72 1B 24 66 00 74 6F 1B 24 78 00  holder.$f.to.$x.
0070  65 69 74 68 65 72 1B 24 A2 00 3C 31 36 39 3E 4C  either.$..<169>L
0080  3C 31 37 30 3E 1B 24 EA 00 28 55 2E 53 2E 1B 24  <170>.$..(U.S..$
0090  0E 01 6C 65 74 74 65 72 1B 24 38 01 73 69 7A 65  ..letter.$8.size
00A0  29 1B 24 5C 01 6F 72 0D 0A 1B 24 3C 00 3C 31 36  ).$\.or...$<.<16
00B0  39 3E 41 34 3C 31 37 30 3E 1B 24 8A 00 28 6D 65  9>A4<170>.$..(me
00C0  74 72 69 63 1B 24 BA 00 6C 65 74 74 65 72 1B 24  tric.$..letter.$
00D0  E4 00 73 69 7A 65 29 2C 1B 24 0E 01 61 63 63 6F  ..size),.$..acco
00E0  72 64 69 6E 67 1B 24 4A 01 74 6F 1B 24 5C 01 74  rding.$J.to.$\.t
00F0  68 65 1B 24 74 01 73 69 7A 65 1B 24 92 01 6F 66  he.$t.size.$..of
```

Figure D-8. Sample hex dump.

Appendix E
Glossary

Alternate graphics
compatible with E
IBM emulation is

Application progr
package you are u
program has its ow
printers. Many of
eliminate the need
commands. Other
the user's part. Ch
Software," provid
several popular p

ASCII—Is an acr
for Information In
(numbered 0 to 2
information betw
Each symbol is re
number which ca
hexadecimal or b

Automatic carria
printhead to the
vertical tab or ES
available only wi
The default settin

Automatic line f
paper one line ea
carriage return c
AUTO LF is "OF

wn as periods. Figure D-8 is an
ump printout.

e printer power is turned off.

SELECT key, turn on the printer.

ur computer.

nting by turning the printer off.

```
B 24 5A 00 54 6F  .@.CB..$<..$Z.To
0 74 68 65 1B 24  .$1.use.$..the.$
0 67 75 69 64 65  ..paper.$..guide
9 1B 24 14 01 73  ,.$..simply.$..s
4 44 01 6C 65 66  et.$,.the.$D.lef
D 0A 1B 24 3C 00  t.$b.paper...$<.
4 6F 1B 24 78 00  holder.$f.to.$x.
C 31 36 39 3E 4C  either.$..<169>L
5 2E 53 2E 1B 24  <170>.$..(U.S..$
8 01 73 69 7A 65  ..letter.$8.size
4 3C 00 3C 31 36  ).$\.or...$<.<16
4 8A 00 28 6D 65  9>A4<170>.$..(me
4 74 65 72 1B 24  tric.$..letter.$
E 01 61 63 63 6F  ..size),.$..acco
F 1B 24 5C 01 74  rding.$J.to.$\.t
B 24 92 01 6F 66  he.$t.size.$..of
```

Appendix E
Glossary

Alternate graphics mode—Makes your printer compatible with Epson graphics commands while the IBM emulation is selected.

Application program—Refers to the software package you are using on your computer. Each program has its own method of communicating with printers. Many of them use printer drivers, which eliminate the need for you to learn about printer commands. Others, however, require more work on the user's part. Chapter 4, "Setting Up Commercial Software," provides instructions for setting up several popular programs to print on the GSX 140.

ASCII—Is an acronym for "American Standard Code for Information Interchange." It is a set of 256 codes (numbered 0 to 255) used to communicate information between the computer and the printer. Each symbol is represented by a single 8-bit binary number which can be expressed in decimal, hexadecimal or binary values.

Automatic carriage return (AUTO CR)—Returns the printhead to the left margin after each line feed, vertical tab or ESC J command. This feature is available only when the IBM emulation is selected. The default setting for AUTO CR is "OFF."

Automatic line feed (AUTO LF)—Advances the paper one line each time the printer receives a carriage return command. The default setting for AUTO LF is "OFF."

Bidirectional printing—Allows the printhead to print in both directions as it travels left and right. This is faster than unidirectional printing, which prints only as the printhead moves from left to right. It is selectable from the print mode jump point on the setup menu.

Code page—is a table used by DOS in IBM (and compatible) computers that assigns a character to each numeric value, providing compatibility between keyboards, displayed characters, printed characters, and stored files. Code pages are used primarily to support foreign language characters. You can find more information in your computer's DOS manual.

Condensed—Produces characters which are 60% of the normal width of the print style and pitch currently selected.

Configuration—Refers to the way your printer is set up. One meaning of configuration is a description of what kind of printer you are using with which computer and which software program(s). A second meaning of configuration refers to the specific settings you have chosen for the printer with the Utility program or the setup menu.

Control codes—Are commands from the computer to the printer which do not print characters. Instead, they manipulate certain printer functions. The control codes are ASCII codes 0 through 31.

Copy mode—Allows you to vary the impression force of the printhead. "Normal" printing allows you to print up to three copies (one original and two copies). "Copy mode" makes it possible for you to print four copies (one original and three copies). The default setting is "OFF." Using a sans serif font produces the best results on the fourth copy of four-part forms.

ing—Allows the printhead to
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rectional printing, which prints
ad moves from left to right. It is
print mode jump point on the

ble used by DOS in IBM (and
ters that assigns a character to
, providing compatibility between
ed characters, printed characters,
de pages are used primarily to
guage characters. You can find
n your computer's DOS manual.

uces characters which are 60% of
f the print style and pitch

fers to the way your printer is set
f configuration is a description of
r you are using with which
h software program(s). A second
ration refers to the specific
hosen for the printer with the
the setup menu.

e commands from the computer to
o not print characters. Instead,
rtain printer functions. The control
des 0 through 31.

ws you to vary the impression
ad. "Normal" printing allows you
copies (one original and two
de" makes it possible for you to
ne original and three copies). The
OFF." Using a sans serif font
esults on the fourth copy of

Default—Has two meanings: one refers to the settings which are built-in to your GSX 140 printer at the factory (referred to as the "factory defaults"); and the other identifies those settings which you have chosen to be active when you turn on the printer.

Demo pattern—Is a printout illustrating some of the GSX 140's capabilities. You can produce this printout without having a computer connected to the printer. See Chapter 1, "Setup."

Download—Describes the process by which fonts are sent to the printer from your software program.

Draft—Refers to one level of print quality. Draft printing is the fastest way to print (160 characters per second at 10 characters per inch) but also has the lowest resolution (printing the fewest dots per inch).

EEPROM—Is an acronym for "electronically erasable and programmable read-only memory," which is a technical term for "permanent memory." Factory default settings and the four defined macros are all stored in the permanent memory. However, "permanent" does not mean "unchangeable." The macros can be changed and new settings stored in the permanent memory at any time.

Emulation—Means "acting like" another printer. Since your GSX 140 can emulate both the Epson LQ-series and the IBM Proprinter X24, it has the capabilities of both those printer lines.

Escape (ESC)—Is a control code (ASCII 27) that begins many printer commands. It is used as a signal to the printer that the following characters should be interpreted as a command, rather than characters to print.

Font—Is a collection of characters, all of the same style and size. For example, one of the GSX 140 resident fonts (ones that are built-in to the printer) is "Letter Quality Roman." You can see a complete list

of your printer's resident fonts in Appendix A, "Character Sets."

Help—Is always available when you can't remember all the functions of the control panel keys. You can print the "help printout" and post it near your printer as a handy reminder. See Chapter 2,"Command-Vue Control Panel," or Chapter 6, "Command-Vue Setup Menu," for instructions on producing this printout.

Interface—Is the point at which or the process by which two separate systems, such as the computer and the printer, communicate.

Italic—Refers to type which is printed at an angle, instead of straight up-and-down. *This is italic print.* Only the Epson emulation allows you to print with italic characters.

Jump point—Identifies functions in the setup menu which can be reached by pressing the Jump key on the control panel. A complete list of jump points is found in Table 7-1.

Letter quality (LQ)—Refers to one level of print quality. Letter Quality printing creates higher-resolution images on the page (more dots per inch) than draft, and consequently prints more slowly (approximately 53 characters per second at 10 characters per inch).

Macro—Is a pre-defined set of printing characteristics, such as print style and format, for using your application software. You can change the default settings in a macro by using either the Utility program or the control panel setup menu.

Menu—Is a list of choices from which you may select a specific setting for your printer. The GSX 140 offers a series of menus in Quick Mode and Setup Mode, which are described in Chapter 5, "Command-Vue Quick Menus," and Chapter 6, "Command-Vue Setup Menu," respectively.

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Chapter 5, "Command-Vue
hapter 6, "Command-Vue Setup

Off-line—The printer is off-line when the ON LINE light is off. The printer cannot receive data from your computer while it is off-line.

On-line—"ON LINE" in the control panel window indicates the printer is ready to receive data from your computer and start printing.

Paper out sensor—Triggers an error condition in the printer and sends this message to the display window: "OFF LINE/P. OUT." It means that there is no paper against the platen.

Paper parking—Allows you to back your continuous paper out of the printer so that you can run a sheet (or more) of single sheet paper without completely unloading the continuous paper. When you are ready to print on continuous paper again, simply use the PARK LOAD key to "unpark" your paper and start printing; no re-loading is necessary.

Paper tear-off—Refers to the location of the tear-bar on the top cover. Rear-fed continuous paper will move automatically to the paper tear-off position so that the paper may be easily removed after printing.

Permanent memory—Is the part of the printer which holds the factory default settings as well as the settings of the four defined macros. However, "permanent" does not mean "unchangeable." The macros can be changed and new settings stored in the permanent memory at any time.

Pitch—Identifies the number of characters which will print in one inch. For example, "10 pitch" will print 10 characters per inch. Pitch can also be proportional; see *Proportional Spacing*.

Print quality—Defines the overall appearance of the printed image. "Letter Quality" has a higher resolution than "Draft Quality;" consequently, you will probably want to select one of the four Letter

Quality fonts for a professional look in your reports and correspondence.

Print style—Comprises a variety of settings you can make to control the appearance of your document. Included are such options as font, pitch, condensed print, italics, and color.

Proportional spacing—Assigns each character a specific width, rather than printing them all at the same width. As a result, a "w" would take up more space on the line than the letter "i."

Quick menu—Is a special feature of the GSX 140 printer which allows you to change certain print settings "on-the-fly." Three items can be changed with the Quick menu: character pitch, font, and color. You can also use this feature to load a macro.

Quick Mode—Describes the condition of the printer when the quick menu is active. The printer is on-line and the QUICK key has been pressed.

RAM—Is an acronym for "Random Access Memory." This part of your computer (or printer) permits information to be written into it as well as read from it, so you can add or delete data in the RAM. Your printer uses its RAM as a buffer for incoming data and storage area for download characters.

Reference program—Is a free program on the Bonus Utility and Reference Disk that provides a complete reference to GSX 140 printer commands. With it, you can select commands from an index, or simply scroll through entire text. You can print some or all of the command reference for referral. It runs on computers using MS- or PC-DOS.

Setup menu—Contains the list of choices you may make regarding how your printer will work. There are many options from which to choose. The setup menu allows you great versatility and convenience in varying your printing styles.

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w your printer will work. There
from which to choose. The setup
great versatility and convenience in
ing styles.

Setup Mode—Describes the condition of the printer when the setup menu is active. The printer is off-line and the Menu key has been pressed.

Skip over perforation—Is a command which tells the printer to stop printing close to the bottom of the page and resume printing at the top of the next page so that data is not printed on the perforation.

Slashed zero—Is a popular way of printing zeros so that they are easily differentiated from the letter "O." A slashed zero looks like this: Ø. The default setting is "OFF."

Software command lock—Protects the print style settings you have made with the GSX 140 control panel from possibly being overridden by commands from your computer.

Tear-off—See *Paper tear-off*.

Temporary memory—Is the part of the printer which holds current settings which are not also saved in a macro. You will lose all settings in the temporary memory when you turn off the printer.

Top-of-form (TOF)—Identifies where the first line of print will appear on the page.

Unidirectional printing—Means the printhead applies images to the paper in one direction only. This gives greater accuracy but slower printing speed.

Utility program—Is a free program on the Bonus Utility and Reference Disk that allows you to make printer settings, define GSX 140 macros, and load macros—all without touching your printer. It runs on computers using MS- or PC-DOS.

Appendix F
Specifications

Printing

Printing Method	Impact dot matrix, with 24-wire print head
Printing Speed	Draft characters: 10 CPI: 160 CPS High-speed 12 CPI: 192 CPS Letter quality (LQ): 10 CPI: 53 CPS High-speed 12 CPI: 64 CPS

Character Sets

Epson Emulation	96 regular, 96 italic, 32 international for each of 13 languages, 32 graphic characters and special symbols
IBM Emulation	96 regular, 160 graphic characters and special symbols, code page selectable
Fonts	Letter Quality Roman Letter Quality Sans Serif Letter Quality Courier Letter Quality Prestige Draft
Character Size	2.4mm x 2.4mm standard characters (10 CPI)

NOTE: CPI stands for Characters Per Inch; CPS stands for Characters Per Second

Character Matrix (Horiz. x Vert.)	**CPI**	**Draft**	**LQ**
	10	12 x 24	36 x 24
	HS-12	10 x 24	30 x 24
	HD-12	12 x 24	36 x 24
Bit Images Modes (Horizontal)	60, 80, 90, 120, 240 and 360 dots per inch		

Column Width	CPI	Column width
	10	80
	12	96
	15	120
	17.1	137

Line Spacing	1/6, 1/8, 7/72 standard n/60, n/120, n/180 or n/360 inch programmable

Ribbon

Standard Black	Continuous nylon in disposable cassette Ribbon life: 2 million draft characters
Optional Color	4-color ribbon (yellow, magenta, cyan and black) in disposable cassette

Paper

Continuous forms	Width: 4-10 inches Weight: 14-27 lbs. (single-part) Thickness: Up to 4 parts including original, maximum form thickness 0.2mm (4-part forms should use bottom paper-feed method with ***copy mode*** on)

NOTE: CPI stands for Characters Per Inch

Single sheets

Feeding

Printer

Dimensions

Weight

Power Requirem

Power Consumpt

Environment

Printer MTBF

Printer MTTR

Print Head Life

CPI	Draft	LQ
10	12 x 24	36 x 24
HS-12	10 x 24	30 x 24
HD-12	12 x 24	36 x 24

60, 80, 90, 120, 240 and 360 dots per inch

CPI	Column width
10	80
12	96
15	120
17.1	137

1/6, 1/8, 7/72 standard
n/60, n/120, n/180 or n/360 inch programmable

Continuous nylon in disposable cassette
Ribbon life: 2 million draft characters

4-color ribbon (yellow, magenta, cyan and black) in disposable cassette

Width: 4-10 inches
Weight: 14-27 lbs. (single-part)
Thickness: Up to 4 parts including original, maximum form thickness 0.2mm (4-part forms should use bottom paper-feed method with ***copy mode*** on)

Single sheets	Width: 7.2-10 inches Weight: 14-27 lbs.
Feeding	Push tractor (for rear feed and paper parking) Single sheet loading Pull tractor (for bottom feed and rear feed without paper parking)

Printer

Dimensions	Height: 5.1 inches (130mm) Width: 15.8 inches (402mm) Depth: 12.6 inches (320mm)
Weight	11.5 lbs. (5.2 kg)
Power Requirements	95-135 VAC, 60 ±2 Hz (US)
Power Consumption	At standby: 12 W During printing of ASCII 96 sliding pattern: 35 W
Environment	Temperature: Operating: 41 to 95°F (5 to 35°C) Storage: -22 to 149°F (-30 to 65°C) Relative Humidity: Operating: 10 to 80% Storage: 5 to 85%
Printer MTBF	4,000 hours
Printer MTTR	24 minutes or less
Print Head Life	200 million strokes per wire

Parallel Interface

Interface	Centronics-compatible, 7 or 8 bit
Synchronization	Externally supplied strobe pulses
Handshaking	ACK or BUSY signals
Logic Level	TTL
Connector	57-30360 Amphenol (cable length not to exceed 10 feet)

Index

Centronics-compatible, 7 or 8 bit

Externally supplied strobe pulses

ACK or BUSY signals

TTL

57-30360 Amphenol (cable length not to exceed 10 feet)

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GSX 14

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printer is in the
follow the instru

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Hex dump printi
Line feed
Load continuous
Maintenance pri
Next jump point
Next menu
Next selection
Off-line Mode
On-line Mode
Park continuous
Previous jump p
Previous menu

GSX 140 Quick Reference

Command-Vue Control Panel

The following table describes the keystrokes required to perform various functions, which are listed alphabetically. To use the table, find the function you are interested in, make sure that the printer is in the mode shown in the Mode column, and then follow the instructions in the third column.

Function	Mode	Keys to press
Choose selection	Setup or Quick	Press **SAVE** key
Clear buffer	Off-line	Hold **SAVE** key and press **ON LINE** key for 3 sec.
Form feed	Off-line	Press **LF/FF** key for 3 sec.
Hex dump printout	Power off	Press **SELECT** key while turning power on
Line feed	Off-line	Press **LF/FF** key
Load continuous paper	Off-line	Make sure paper is in tractors, press **PARK LOAD**
Maintenance printout	Power off	Press **LF/FF** and **ON LINE** keys while turning power on
Next jump point	Setup	Press **JUMP** key
Next menu	Setup	Press **MENU** key
Next selection	Setup or Quick	Press **SELECT** key
Off-line Mode	On-line or Setup	Press **ON LINE** key
On-line Mode	ON LINE light is off or flashing	Press **ON LINE** key
Park continuous paper	Off-line	Press **PARK LOAD**
Previous jump point	Setup	Hold **PARK LOAD** key and press **JUMP** key
Previous menu	Setup	Hold **PARK LOAD** key and press **MENU** key

Previous selection	Setup or Quick	Hold **PARK LOAD** key and press **SELECT** key
Quick Mode	On-line	Press **QUICK** key
Reset to factory default macros	Off-line	Hold **SELECT** key and press **ON LINE** and **PARK LOAD** keys for 3 sec.
Self test printout	Power off	Press **LF/FF** key while turning power on
Set top-of-form position	On-line	When paper is at top-of-form position (indicated by - -), press **PARK LOAD** or **LF/FF** key for 2 sec.
Setup Mode	Off-line	Press **MENU** key

Quick Mode Options

The following options are available in Quick Mode, which is accessed by pressing the QUICK key while the printer is on-line. After pressing the key shown in the second column, press the SELECT key to choose among the options. Press the SAVE key to activate your selection.

Function	Key	Options
Select a color	**COLOR** (LF/FF)	BLACK RED BLUE VIOLET YELLOW ORANGE GREEN
Select pitch	**PITCH** (MENU)	10 CPI HS 12CPI HD 12CPI 15 CPI (Epson only) 17 CPI 20 CPI (Epson only) PROPORT
Select a font	**FONT** (PARK LOAD)	LQ ROMAN LQ SANS LQ COUR LQ PREST DRAFT

Load a macro
Return to on-line

Setup Mode

The following options a
accessed by pressing th
Press the JUMP key to
key to see the next men
displayed, press the SE
Press the SAVE key to

Jump point
PRNT OUT
MAC CTRL
EMLATION
PRN STYL

Load a macro	**LOAD MAC** (SAVE)	MACRO 1 MACRO 2 MACRO 3 MACRO 4
Return to on-line	**ON LINE**	

Setup Mode Options

The following options are available in Setup Mode, which is accessed by pressing the MENU key while the printer is off-line. Press the JUMP key to reach the next jump point, or the MENU key to see the next menu. After the desired menu name is displayed, press the SELECT key to choose among the options. Press the SAVE key to change the setting to the selection shown.

Jump point	Menu	Selections
PRNT OUT	DEMO	
	HELP	
	CONFIG	CURRENT DEFAULT
MAC CTRL	LOAD MAC	MACRO 1 MACRO 2 MACRO 3 MACRO 4
	DEFN MAC	MACRO 1 MACRO 2 MACRO 3 MACRO 4
EMLATION	EMLATION	EPSON IBM
PRN STYL	FONT	DRAFT LQ ROMAN LQ SANS LQ COUR LQ PREST
	PITCH	10 CPI HS 12 CPI HD 12 CPI 15 CPI (Epson only) 17 CPI 20 CPI (Epson only) PROPORT
	CONDENSE	OFF ON
	ZERO (IBM)	NO SLASH SLASH

Epson LQ-Series Commands

Select print quality	Letter quality	ESC x 1
	Draft	ESC x 0
Select font	Roman	ESC k 0
	Sans serif	ESC k 1
	Courier	ESC k 2
	Prestige	ESC k 3
Special effect	Normal	ESC q 0
	Outline	ESC q 1
	Shadow	ESC q 2
	Outline with shadow	ESC q 3
Emphasized print	On	ESC E
	Off	ESC F
Doublestrike print	On	ESC G
	Off	ESC H
Italic print	On	ESC 4
	Off	ESC 5
Underlining	On	ESC - 1
	Off	ESC - 0
Scoring		ESC (- {3} {0} {1} *n1 n2*
Superscript/subscript	Superscript	ESC S 0
	Subscript	ESC S 1
	Off	ESC T
Double-high print	On	ESC w 1
	Off	ESC w 0
	On	ESC ~ 1 1
	Off	ESC ~ 1 0
Reverse print	On	ESC ~ 2 1
	Off	ESC ~ 2 0
Select color	Black	ESC r 0
	Magenta	ESC r 1
	Cyan	ESC r 2
	Violet	ESC r 3
	Yellow	ESC r 4
	Orange	ESC r 5
	Green	ESC r 6
Select print style		ESC ! *n*

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	ITALICS (Epson)	OFF ON
	COLOR	BLACK RED BLUE VIOLET YELLOW ORANGE GREEN
	AGM MODE (IBM)	OFF ON
PRN MODE	CPY MODE	OFF ON
	TEXT DIR	BI DIR UNI DIR
	GRPH DIR	BI DIR UNI DIR
	SW LOCK	OFF FONTS ALL STYL
PG LYOUT	LINE SP.	6 LPI 8 LPI HOST DEF
	FRM LNTH	6 INCH 8 INCH 11 INCH 11.6INCH 12 INCH 14 INCH 15 INCH HOST DEF
	PG SKIP (Epson)	OFF ON
	RT MARGN	##CLMN (80)
	LT MARGN	##CLMN (0)
INSTALL	RIBBON	NORMAL COLOR
	A.S.F.	OFF ON
	AUTO CR (IBM)	OFF ON
	AUTO LF	OFF ON
	SLCT IN (Epson)	IGNORE ACTIVE
	CTZN ESC	OFF ON
	REV LF	OFF ON

	PG C
	PAPF
	TEAF
CHR TABL	COU (Eps
	CHI
	CO
	CH
	RS BA
	R P
	R D
	F S
	F F

		OFF ON
		BLACK RED BLUE VIOLET YELLOW ORANGE GREEN
		OFF ON
		OFF ON
		BI DIR UNI DIR
		BI DIR UNI DIR
		OFF FONTS ALL STYL
		6 LPI 8 LPI HOST DEF
		6 INCH 8 INCH 11 INCH 11.6INCH 12 INCH 14 INCH 15 INCH HOST DEF
		OFF ON
		##CLMN (80)
		##CLMN (0)
		NORMAL COLOR
		OFF ON
		OFF ON
		OFF ON
		IGNORE ACTIVE
		OFF ON
		OFF ON
	PG CNTR	## (40)
	PAPR OUT	ENABLE DISABLE
	TEAR OFF	OFF ON
CHR TABL	COUNTRY (Epson)	U.S.A. FRANCE GERMANY U.K. DENMRK 1 SWEDEN ITALY SPAIN 1 JAPAN NORWAY DENMRK 2 SPAIN 2 LTN.AMER LEGAL
	CHR SET (Epson)	ITALICS GRAPHICS
	CODE PG (IBM)	U.S.A. MULTI PORTUGAL CANADA NORWAY SCANDNVA
	CHR SET (IBM)	SET 1 SET 2
	RS-232C BAUDRATE	9600 4800 2400 1200 600 300 110
	RS-232C PARITY	NONE ODD EVEN
	RS-232C DATA BIT	8 BIT 7 BIT
	RS-232C STOP BIT	2 BIT 1 BIT
	RS-232C PROTOCOL	XON/XOFF DTR
	OPTN RAM (optional memory installed)	BUFFER DOWNLOAD

Epson LQ-Series Commands

Select print quality	Letter quality	ESC x 1
	Draft	ESC x 0
Select font	Roman	ESC k 0
	Sans serif	ESC k 1
	Courier	ESC k 2
	Prestige	ESC k 3
Special effect	Normal	ESC q 0
	Outline	ESC q 1
	Shadow	ESC q 2
	Outline with shadow	ESC q 3
Emphasized print	On	ESC E
	Off	ESC F
Doublestrike print	On	ESC G
	Off	ESC H
Italic print	On	ESC 4
	Off	ESC 5
Underlining	On	ESC - 1
	Off	ESC - 0
Scoring		ESC (- {3} {0} {1} *n1 n2*
Superscript/subscript	Superscript	ESC S 0
	Subscript	ESC S 1
	Off	ESC T
Double-high print	On	ESC w 1
	Off	ESC w 0
	On	ESC ~ 1 1
	Off	ESC ~ 1 0
Reverse print	On	ESC ~ 2 1
	Off	ESC ~ 2 0
Select color	Black	ESC r 0
	Magenta	ESC r 1
	Cyan	ESC r 2
	Violet	ESC r 3
	Yellow	ESC r 4
	Orange	ESC r 5
	Green	ESC r 6
Select print style		ESC ! *n*

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Pitch	Pica	ESC P
	Elite	ESC M
	Fifteen pitch	ESC g
	Pica	ESC ~ 3 0
	Elite	ESC ~ 3 1
	High-speed elite	ESC ~ B 0
	High-density elite	ESC ~ B 1
	Fifteen pitch	ESC ~ 3 6
	Condensed	ESC ~ 3 2
	20 pitch	ESC ~ 3 7
Expanded print	On	ESC W 1
	Off	ESC W 0
Expanded print (one line)	On	{14}
	Off	{20}
Condensed print	On	{15}
	Off	{18}
Proportional spacing	On	ESC p 1
	Off	ESC p 0
Set intercharacter spacing		ESC (space) *n*
Select character set	USA	ESC R {0}
	France	ESC R {1}
	Germany	ESC R {2}
	United Kingdom	ESC R {3}
	Denmark I	ESC R {4}
	Sweden	ESC R {5}
	Italy	ESC R {6}
	Spain I	ESC R {7}
	Japan	ESC R {8}
	Norway	ESC R {9}
	Denmark II	ESC R {10}
	Spain II	ESC R {11}
	Latin America	ESC R {12}
	Legal	ESC R {64}
Characters 128-255	Italics	ESC t 0
	Epson graphics characters	ESC t 1
	Download characters 0-127	ESC t 2
Characters 128-159	Control codes	ESC 7
	Printable characters	ESC 6
Zero	Slashed	ESC ~ 4 1
	Not slashed	ESC ~ 4 0
Line spacing	1/6 inch	ESC 2
	1/8 inch	ESC 0
	n/60 inch	ESC A *n*
	n/120 inch	ESC ~ 0 *n*
	n/180 inch	ESC 3 *n*
	n/360 inch	ESC + *n*
Set page length	*n* lines	ESC C *n*
	n inches	ESC C {0} *n*
Skip-over-perforation	*n* lines	ESC N *n*
	Cancel	ESC O
Margins	Left	ESC l *n*
	Right	ESC Q *n*

Justification	Flush left
	Centered
	Flush right
	Justified left ar
Move printhead	To left margin
	Backspace
	To next horizo
	Absolute posit
	Relative positi
Set horizontal tabs	
Advance paper	One line
	To next TOF
	n/180 inch
	To next vertica
Set vertical tabs	In channel 0
	In channel *c*
Select vertical tab channel	
Bit image graphics	Single-density
	Double-densit
	Hi-speed dbl-d
	Quadruple-de
	Graphics mod
	Reassign graph
Download characters	Define characte
	Copy ROM to
	Select downloa
	Cancel downlo
Delete character	
Delete line	
Automatic sheet feeder	A.S.F. on
	A.S.F. off
	Eject sheet
Master reset	
Emulation	Epson LQ-serie
	IBM Proprinter
Unidirectional print	On
	Off
	One line
Half speed mode	On
	Off
Select/deselect	Deselect
	Select
MSB control	MSB = 1
	MSB = 0
	Cancel MSB co

ESC P	Justification
ESC M	
ESC g	
ESC ~ 3 0	
ESC ~ 3 1	Move printhead
ESC ~ B 0	
ESC ~ B 1	
ESC ~ 3 6	
ESC ~ 3 2	
ESC ~ 3 7	Set horizontal tabs
ESC W 1	Advance paper
ESC W 0	
{14}	
{20}	
{15}	Set vertical tabs
{18}	
ESC p 1	Select vertical tab channel
ESC p 0	Bit image graphics
ESC (space) *n*	
ESC R {0}	
ESC R {1}	
ESC R {2}	
ESC R {3}	
ESC R {4}	Download characters
ESC R {5}	
ESC R {6}	
ESC R {7}	
ESC R {8}	Delete character
ESC R {9}	Delete line
ESC R {10}	Automatic sheet feeder
ESC R {11}	
ESC R {12}	
ESC R {64}	Master reset
ESC t 0	Emulation
ESC t 1	
ESC t 2	Unidirectional print
ESC 7	
ESC 6	
ESC ~ 4 1	Half speed mode
ESC ~ 4 0	
ESC 2	Select/deselect
ESC 0	
ESC A *n*	MSB control
ESC ~ 0 *n*	
ESC 3 *n*	
ESC + *n*	
ESC C *n*	
ESC C {0} *n*	
ESC N *n*	
ESC O	
ESC l *n*	
ESC Q *n*	

Flush left	ESC a 0
Centered	ESC a 1
Flush right	ESC a 2
Justified left and right	ESC a 3
To left margin	{13}
Backspace	{8}
To next horizontal tab position	{9}
Absolute position	ESC $ *n1 n2*
Relative position	ESC \ *n1 n2*
	ESC D *n1 n2* ... {0}
One line	{10}
To next TOF	{12}
n/180 inch	ESC J *n*
To next vertical tab position	{11}
In channel 0	ESC B *n1 n2* ... {0}
In channel *c*	ESC b *c n1 n2* ... {0}
	ESC / *c*
Single-density	ESC K *n1 n2 data*
Double-density	ESC L *n1 n2 data*
Hi-speed dbl-density	ESC Y *n1 n2 data*
Quadruple-density	ESC Z *n1 n2 data*
Graphics mode *m*	ESC * *m n1 n2 data*
Reassign graphics mode	ESC ? *n m*
Define character	ESC & {0} *data*
Copy ROM to RAM	ESC : {0} *n* {0}
Select download characters	ESC % 1
Cancel download characters	ESC % 0
	{127}
	{24}
A.S.F. on	ESC {25} 4
A.S.F. off	ESC {25} 0
Eject sheet	ESC {25} R
	ESC @
Epson LQ-series	ESC ~ 5 0
IBM Proprinter X24	ESC ~ 5 1
On	ESC U 1
Off	ESC U 0
One line	ESC
On	ESC s 1
Off	ESC s 0
Deselect	{19}
Select	{17}
MSB = 1	ESC
MSB = 0	ESC =
Cancel MSB control	ESC #

IBM Proprinter X24 Emulation Commands

Select font	Draft 10 pitch	ESC I {0}
	Draft 12 pitch	ESC I {8}
	Draft 17 pitch	ESC I {16}
	Courier LQ 10 pitch	ESC I {2}
	Prestige LQ 12 pitch	ESC I {10}
	Courier LQ 17 pitch	ESC I {18}
	Letter quality proportional	ESC I {3}
Emphasized print	On	ESC E
	Off	ESC F
Doublestrike print	On	ESC G
	Off	ESC H
Underlining	On	ESC - 1
	Off	ESC - 0
Overscoring	On	ESC _ 1
	Off	ESC _ 0
Superscript/subscript	Superscript	ESC S 0
	Subscript	ESC S 1
	Off	ESC T
Double-high print		ESC [@ {4} {0} {0} {0} *n1 n2*
	On	ESC ~ 1 1
	Off	ESC ~ 1 0
Reverse print	On	ESC ~ 2 1
	Off	ESC ~ 2 0
Select color	Black	ESC r 0
	Magenta	ESC r 1
	Cyan	ESC r 2
	Violet	ESC r 3
	Yellow	ESC r 4
	Orange	ESC r 5
	Green	ESC r 6
Pitch	Pica	{18}
	Elite	ESC :
	High-speed elite	ESC ~ B 0
	High-density elite	ESC ~ B 1
	Condensed	{15}
	Pica	ESC ~ 3 0
	Elite	ESC ~ 3 1
	Fifteen pitch	ESC ~ 3 6
	Condensed	ESC ~ 3 2
	20 pitch	ESC ~ 3 7
Expanded print	On	ESC W 1
	Off	ESC W 0
Expanded print (one line)	On	{14}
	Off	{20}
Proportional spacing	On	ESC P 1
	Off	ESC P 0
Select character set	Set 1	ESC 7
	Set 2	ESC 6

Print All Characters Set	Continuous	
	One character	
Zero	Slashed	
	Not slashed	
Line spacing	Start text line sp	
	1/8 inch	
	7/72 inch	
	n/72 inch	
	n/120 inch	
	n/216 inch	
Set vertical units	1/216"	
	1/180"	
Set top-of-form position		
Set page length	*n* lines	
	n inches	
Skip-over-perforation	*n* lines	
	Cancel	
Left and right margins		
Move printhead	To left margin	
	Backspace	
	To next horizon	
	Relative positio	
Advance paper	One line	
	To next TOF	
	n/216 inch	
	To next vertica	
Tabs	Set horizontal t	
	Set vertical tab	
	Clear all tabs	
Bit image graphics	Single-density	
	Double-density	
	Hi-speed dbl-d	
	Quadruple-den	
	Graphics mode	
	Graphics mode	
Download characters	Define charact	
	Select downlo	
Delete line		
Automatic sheet feeder	A.S.F. on	
	A.S.F. off	
	Eject sheet	
Emulation	Epson LQ-seri	
	IBM Proprinte	
Automatic line feed	On	
	Off	
Unidirectional print	On	
	Off	
Half speed mode	On	
	Off	
Off-line		
Select/deselect	Deselect	
	Deselect	
	Select	

ulation

ESC I {0}
ESC I {8}
ESC I {16}
ESC I {2}
ESC I {10}
ESC I {18}
ortional ESC I {3}
ESC E
ESC F
ESC G
ESC H
ESC - 1
ESC - 0
ESC _ 1
ESC _ 0
ESC S 0
ESC S 1
ESC T
SC [@ {4} {0} {0} {0} *n1 n2*
ESC ~ 1 1
ESC ~ 1 0
ESC ~ 2 1
ESC ~ 2 0
ESC r 0
ESC r 1
ESC r 2
ESC r 3
ESC r 4
ESC r 5
ESC r 6
{18}
ESC :
ESC ~ B 0
ESC ~ B 1
{15}
ESC ~ 3 0
ESC ~ 3 1
ESC ~ 3 6
ESC ~ 3 2
ESC ~ 3 7
ESC W 1
ESC W 0
{14}
{20}
ESC P 1
ESC P 0
ESC 7
ESC 6

Print All Characters Set		
Zero		
Line spacing	Continuous	ESC \ *n1 n2*
	One character	ESC ^ *n*
	Slashed	ESC ~ 4 1
	Not slashed	ESC ~ 4 0
	Start text line spacing	ESC 2
	1/8 inch	ESC 0
	7/72 inch	ESC 1
	n/72 inch	ESC A *n*
	n/120 inch	ESC ~ 0 *n*
	n/216 inch	ESC 3 *n*
Set vertical units	1/216"	ESC [\ {4} {0} {0} {0} {0} {216}
	1/180"	ESC [\ {4} {0} {0} {0} {0} {180}
Set top-of-form position		ESC 4
Set page length	*n* lines	ESC C *n*
	n inches	ESC C {0} *n*
Skip-over-perforation	*n* lines	ESC N *n*
	Cancel	ESC O
Left and right margins		ESC X *l r*
Move printhead	To left margin	{13}
	Backspace	{8}
	To next horizontal tab position	{9}
	Relative position	ESC d *n1 n2*
Advance paper	One line	{10}
	To next TOF	{12}
	n/216 inch	ESC J *n*
	To next vertical tab position	{11}
Tabs	Set horizontal tabs	ESC D *n1 n2* ... {0}
	Set vertical tabs	ESC B *n1 n2* ... {0}
	Clear all tabs	ESC R
Bit image graphics	Single-density	ESC K *n1 n2 data*
	Double-density	ESC L *n1 n2 data*
	Hi-speed dbl-density	ESC Y *n1 n2 data*
	Quadruple-density	ESC Z *n1 n2 data*
	Graphics mode *m*	ESC [g *n1 n2 m data*
	Graphics mode *m*	ESC * *m n1 n2 data*
Download characters	Define characters	ESC = *data*
	Select download characters	ESC I *n*
Delete line		{24}
Automatic sheet feeder	A.S.F. on	ESC {25} 4
	A.S.F. off	ESC {25} 0
	Eject sheet	ESC {25} R
Emulation	Epson LQ-series	ESC ~ 5 0
	IBM Proprinter X24	ESC ~ 5 1
Automatic line feed	On	ESC 5 1
	Off	ESC 5 0
Unidirectional print	On	ESC U 1
	Off	ESC U 0
Half speed mode	On	ESC s 1
	Off	ESC s 0
Off-line		ESC j
Select/deselect	Deselect	{19}
	Deselect	ESC Q {36}
	Select	{17}

Commands

quality	ESC x 1
	ESC x 0
	ESC k 0
rif	ESC k 1
	ESC k 2
	ESC k 3
	ESC q 0
	ESC q 1
	ESC q 2
with shadow	ESC q 3
	ESC E
	ESC F
	ESC G
	ESC H
	ESC 4
	ESC 5
	ESC - 1
	ESC - 0
	ESC (- {3} {0} {1} *n1 n2*
cript	ESC S 0
pt	ESC S 1
	ESC T
	ESC w 1
	ESC w 0
	ESC ~ 1 1
	ESC ~ 1 0
	ESC ~ 2 1
	ESC ~ 2 0
	ESC r 0
ta	ESC r 1
	ESC r 2
	ESC r 3
	ESC r 4
	ESC r 5
	ESC r 6
	ESC ! *n*

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